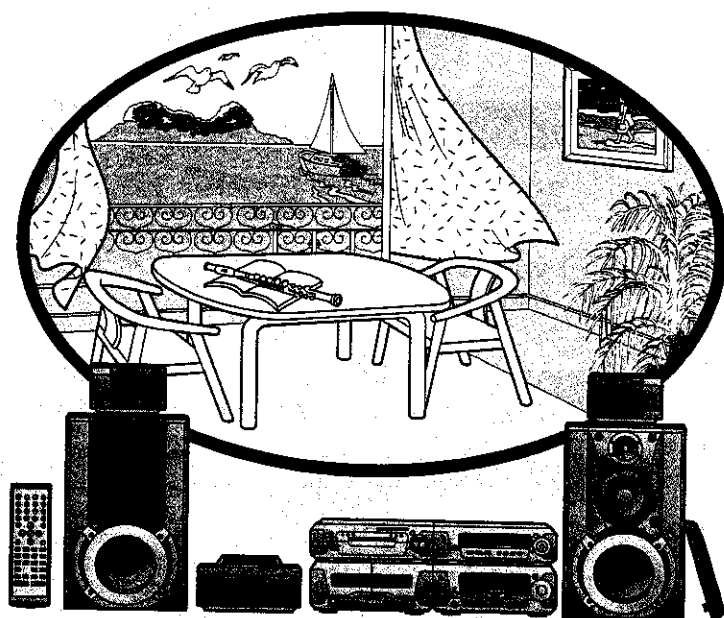


DVD Stereo System

SC-DV150

Operating Instructions



The illustrations show SC-DV150 for U.K. and Europe.

EB EG GC GN

DVD **COMPACT**
VIDEO **disc**
DIGITAL VIDEO

Technics®

Before connecting, operating or adjusting this product, please read these instructions completely. Please keep this manual for future reference.

ROT5052-1

Dear customer

Thank you for purchasing this system.

For optimum performance and safety, please read these instructions carefully.

These operating instructions are applicable to the following system.

System		SC-DV150
Sound processor		SH-DV150
Tuner amplifier		SA-DV150
DVD/Video CD/CD changer		SL-DV150
Cassette deck		RS-DV150
Speakers	Front	●SB-EH750 (For U.K. and Europe) ●SB-EH750A (For others)
	Center	SB-PC75
	Surround	SB-PS75

CAUTION!

THIS PRODUCT UTILIZES A LASER.

USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

DO NOT OPEN COVERS AND DO NOT REPAIR YOURSELF. REFER SERVICING TO QUALIFIED PERSONNEL.

CAUTION!

DO NOT INSTALL OR PLACE THIS UNIT IN A BOOKCASE, BUILT IN CABINET OR IN ANOTHER CONFINED SPACE IN ORDER TO KEEP WELL VENTILATED CONDITION. ENSURE THAT CURTAINS AND ANY OTHER MATERIALS DO NOT OBSTRUCT THE VENTILATION CONDITION TO PREVENT RISK OF ELECTRIC SHOCK OR FIRE HAZARD DUE TO OVERHEATING.

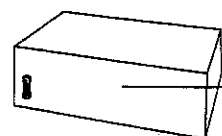
CAUTION!

The AC voltage is different according to the area. Be sure to set the proper voltage in your area before use.

(For details, please refer to page 5.)

DANGER	LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM.
DANGER	RADIATION LASER LORSQUE OUVERT. EVITER TOUTE EXPOSITION AU FAISCEAU.
ADVARSEL	LASERSTRÅLING VED ÅBNING. NÅR SIKKERHEDSÅFBRYDERE ER UD AF FUNKTION. UNDGÅ UDSETTELSE FOR STRÅLING.
VARO!	AVATTIÄSSÄ JA SUOJALUUTUS OHITETTÄESSÄ OLET ALTIINA LASERSÄTELYLLE. ÄLÄ KATSO SÄTEESSEN.
VARNING	LASERSTRÅLNING NÅR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRÄKTA EJ STRÅLEN.
ADVARSEL	LASERSTRÅLING NÅR DEKSEL ÅPNES OG SIKKERHEDSLÅS BRYDES. UNNGÅ EKSPONERING FOR STRÅLEN.
VORSICHT	LASERSTRÄHLUNG, WENN ABDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSSETZEN.

(Inside of product)
(Intérieur de l'appareil)
(Indersiden af apparatet)
(Tuotteen sisällä)
(Apparatens insida)
(Produktets innsida)
(Im Inneren des Gerätes)



DVD/Video CD/CD
changer



(Back of product)

Supplied accessories



Please check and identify the supplied accessories.

The style of FM indoor antenna and AC mains lead differ with the area.

- ☐ FM indoor antenna 1 pc.
For U.K. and Europe: RSA0007
For others: RSA0006



- ☐ FM antenna adaptor (only for U.K.) 1 pc.
(SJP9009)



- ☐ AM loop antenna set (RSA0022-J) 1 set



- ☐ Speaker cords 4 pcs.
(REE0393: Red and Black/REE0853: Gray and Blue)



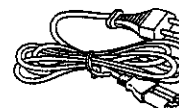
- ☐ Video cable 1 pc. (For U.K. and Europe)
2 pcs. (For others)



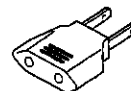
- ☐ RCAJ adaptor (only for U.K. and Europe) 1 pc.
(VFA0151-1)



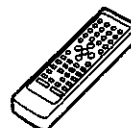
- ☐ AC mains lead 1 pc.
For U.K.: RJA0053-2X
For Australia and New Zealand: RJA0035-X
For others: RJA0019-1X



- ☐ Power plug adaptor (except for U.K., Europe,
Australia and New Zealand) 1 pc.
(SJP5213-2)



- ☐ Remote control transmitter 1 pc.
(RAK-EHA20WH)



- ☐ Remote control batteries 2 pcs.



Use numbers indicated in parentheses when asking for replacement parts.

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Timer and others

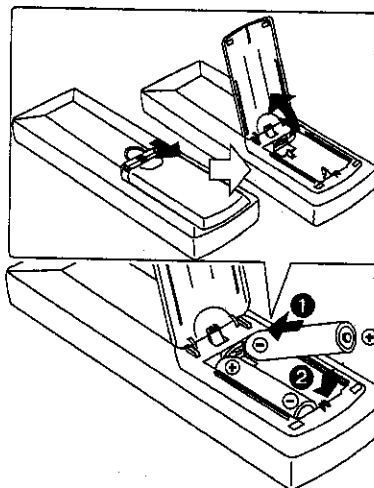
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Concerning the remote control

Battery installation



R6/LR6, AA, UM-3

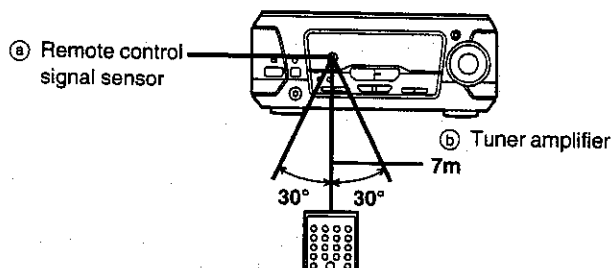
- Align the poles (+ and -) properly when inserting the batteries.
- Do not mix old and new batteries, or batteries of different types (manganese and alkaline, etc.).
- Never subject batteries to excessive heat or flame; do not attempt to disassemble them; and be sure they are not short-circuited.
- If the remote control is not to be used for a long period of time, remove the batteries and store them in a cool, dark place.
- Do not attempt to recharge alkaline or manganese batteries.
- Do not use rechargeable type batteries.

Mishandling of batteries can cause electrolyte leakage which can damage items the fluid contacts and may cause a fire. If electrolyte leaks from the batteries, consult your dealer. Wash thoroughly with water if electrolyte comes in contact with any part of your body.

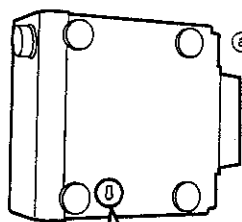
If the battery lid comes loose

Slide the lid back into place horizontally.

Correct method of use



- Aim the remote control's transmission window toward the unit's sensor. Avoid any obstacles.
- Be sure the transmission window and the unit's sensor are free from dust. Excessive dust might affect its performance.
- This unit may not operate correctly if direct sunlight or another strong light source strikes the receiving sensor of this unit. If there is a problem, place the unit away from the light source.
- Never place heavy items on top of the unit.
- Do not disassemble or reconstruct the unit.
- Do not spill water or other liquids into the unit.

A

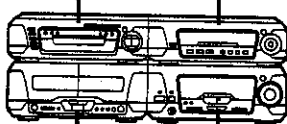
a Bottom of the tuner amplifier



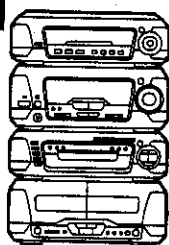
127V ↔ 110V ↔ 220V ↔ 230V-240V

B

b DVD/Video CD/CD changer (SL-DV150) c Sound processor (SH-DV150)



d Cassette deck (RS-DV150) e Tuner amplifier (SA-DV150)

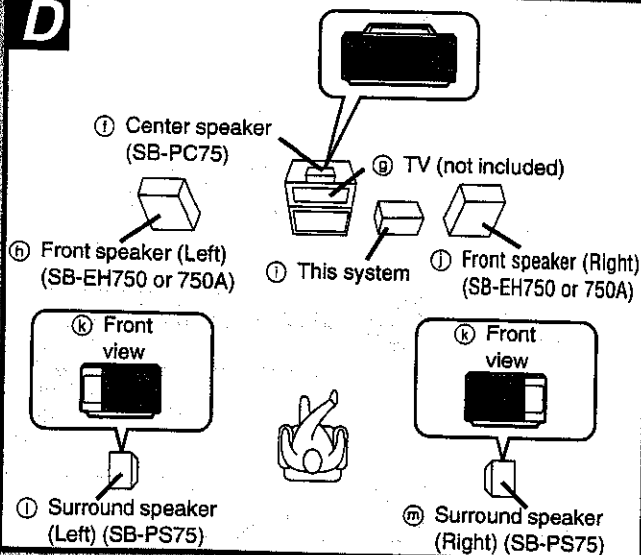
C

c Sound processor (SH-DV150)

e Tuner amplifier (SA-DV150)

b DVD/Video CD/CD changer (SL-DV150)

d Cassette deck (RS-DV150)

D

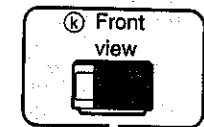
1 Center speaker (SB-PC75)

g TV (not included)

h Front speaker (Left) (SB-EH750 or 750A)

1 This system

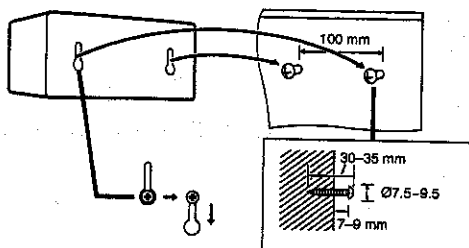
1 Front speaker (Right) (SB-EH750 or 750A)



1 Surround speaker (Left) (SB-PS75)



m Surround speaker (Right) (SB-PS75)

E**Set the voltage**

Except for U.K., Europe, Australia and New Zealand

Be sure to disconnect the AC mains lead before setting the voltage. Use a flat-head screwdriver to turn the voltage selector (on the bottom of the tuner amplifier) to the appropriate position for the area in which this system is used.

If the power supply in your area is 115 V or 120 V, set it as follows:

- For 115 V: set to 110 V

- For 120 V: set to 127 V

Note that this will be seriously damaged if this setting is not made correctly.

Installation**Locating the components**Side-by-side set-up **B**Stacking **C****Placement of center/surround speakers **D******Center speaker**

Place the center speaker above a TV, as close to it as possible.

Note

Do not place the center speaker on this system as sound quality will be affected.

Surround speakers

We recommend that surround speakers be placed on the side of or slightly behind the listener, and about one meter higher than ear level.

Place the speakers with the Technics logo facing toward the listening position.

For your reference

Even if you are forced to put your surround speakers on top of your front speakers, this unit still allows you to enjoy surround effects (→ pages 45, 49, "Virtual rear surround effect").

Attaching to a wall **E**

Set speaker onto screws and slide through bracket to lock into position.

Note

The wall or pillar on which the speaker systems are to be attached should be capable of supporting a weight of 5 kg.

Caution

- Use the speakers only with the recommended system. Failure to do so may lead to damage to the amplifier and/or the speakers, and may result in the risk of fire. Consult a qualified service person if damage has occurred or if you experience a sudden change in performance.
- Do not attempt to attach these speakers to walls using methods other than those described in this manual.

Note

The front and center speakers are made so they can be used in close proximity to the TV, but irregular coloring may result due to how the system is placed. If such distortion occurs, turn off the TV for between 15 and 30 minutes. The demagnetizing function of the TV will eliminate the distortion. If the irregular coloring is still visible, then move the speaker further away from the TV.

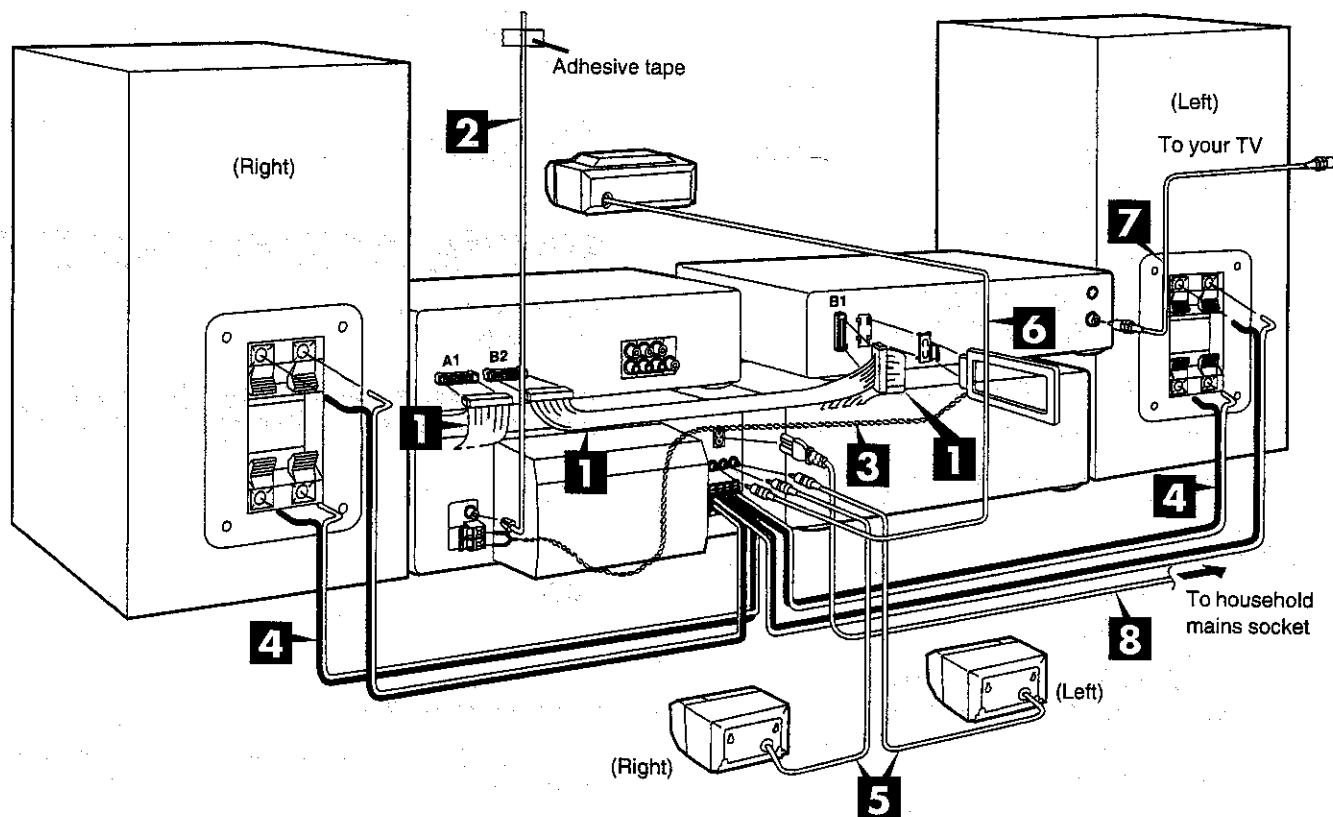
Before use

Connections

Connect the AC mains lead after you have connected all other cables.

These figures show SC-DV150 for U.K. and Europe.

To prepare the FM indoor antenna (except for U.K. and Europe), the AM loop antenna wire and speaker cords, twist the vinyl cover tip and pull off.



1

To connect cables

Connector

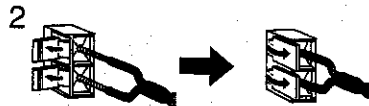
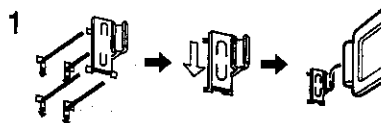


White line

To unplug cables
Hold the connector from both ends and pull it out.

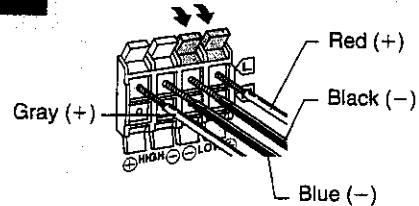


3



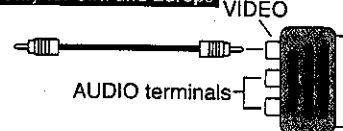
4

Tuner amplifier side



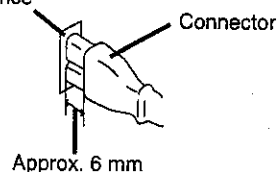
A

Only for U.K. and Europe



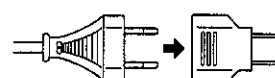
B

Appliance inlet



C

Except for U.K., Europe, Australia and New Zealand

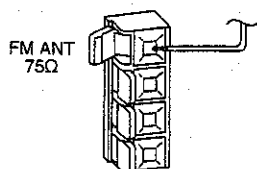


2

For U.K. and Europe



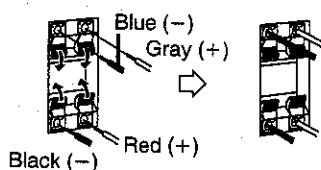
For Australia, New Zealand and others



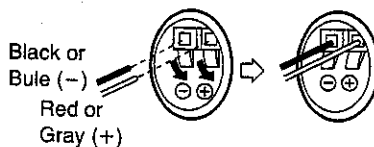
4

Speaker side

For U.K. and Europe



For Australia, New Zealand and others



1 Connect the flat cables.

1. Connect the shorter flat cable from the tuner amplifier to terminal A1 on the sound processor.
2. Connect the longer flat cable from the cassette deck to terminals B1 and B2.

After connection:

Keep cables as flat against the back of the unit as possible.

2 Connect the FM indoor antenna.

Tape the antenna to a wall or column, in a position where radio signals are received with the least amount of interference.

3 Connect the AM loop antenna.

Note

To minimize noise pickup, bundle the loop antenna cord using tape or the like to keep the flat cables away from the AM loop antenna cord.

4 Connect the right (R) and left (L) front speaker cables.

Use only the supplied front speakers.

The combination of the main unit and front speakers provide the best sound. Using other front speakers can damage the unit and sound quality will be negatively effected.

Note

Be sure to connect only positive (red or gray) wires to positive (+) terminals and negative (black or blue) wires to negative (-) terminals.

5 Connect the surround speaker cables.

6 Connect the center speaker cable.

7 Connect the video cable(s).

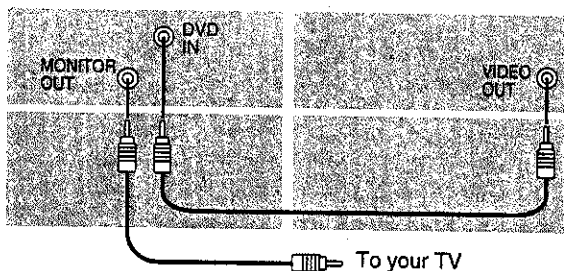
Only for U.K. and Europe

Use the RCAJ adaptor (included) if your TV has 21-pin SCART terminal **A**

You do not have to connect anything to the AUDIO terminals.

Except for U.K. and Europe

- Connect a video cable from the MONITOR OUT terminal of the sound processor to the video input terminal of your TV.
- Connect another video cable from the DVD IN terminal of the sound processor to the VIDEO OUT terminal of the DVD/Video CD/CD changer.



8 Connect the AC mains lead.

Insertion of Connector **B**

Even when the connector is perfectly inserted, depending on the type of inlet used, the front part of the connector may jut out as shown in the drawing.

However there is no problem using the unit.

Except for U.K., Europe, Australia and New Zealand

If the power plug does not fit your socket, use the power plug adaptor (included). **C**

For your reference

Information you enter into the unit's memory, except for the time, remains intact for up to two weeks after the AC mains lead is disconnected.

Optional antenna connections

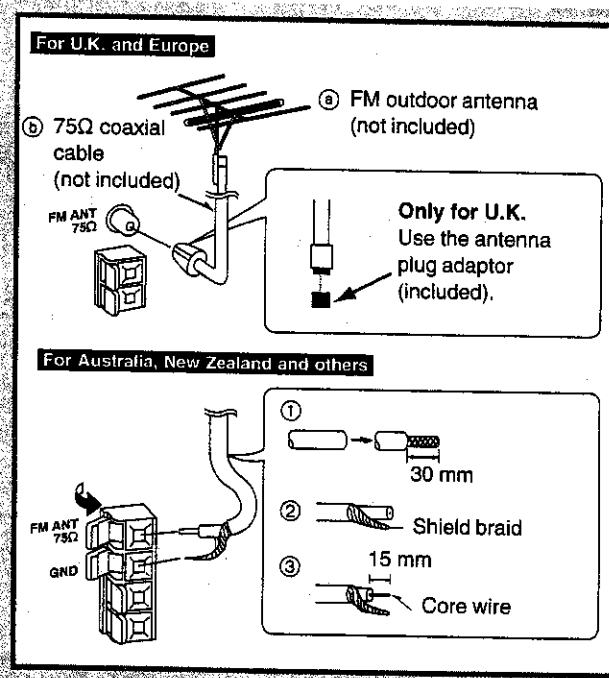
You may need an outdoor antenna if you use this system in a mountainous region or inside a reinforced-concrete building, etc.

FM outdoor antenna (not included) **A**

Remove the FM indoor antenna.

Note

An outdoor antenna should be installed by a qualified technician only.

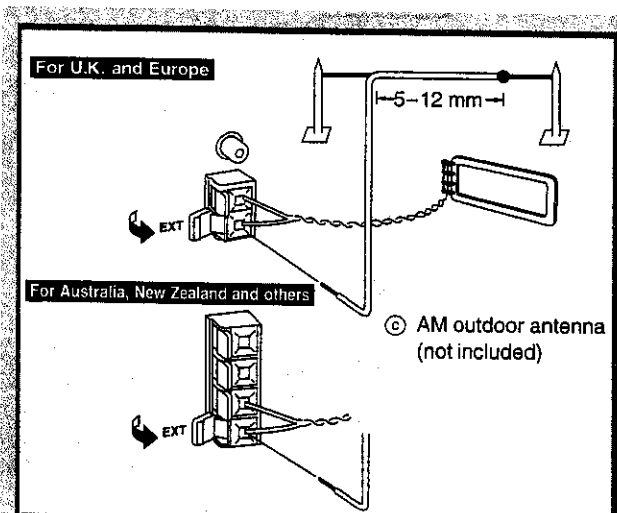


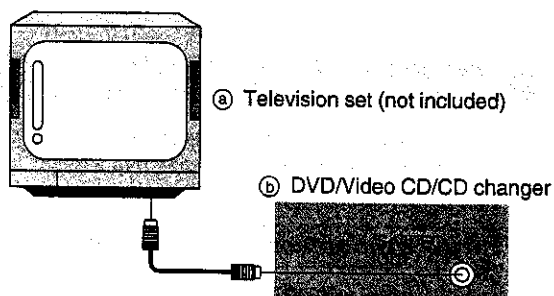
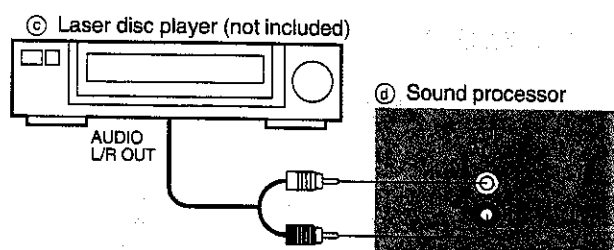
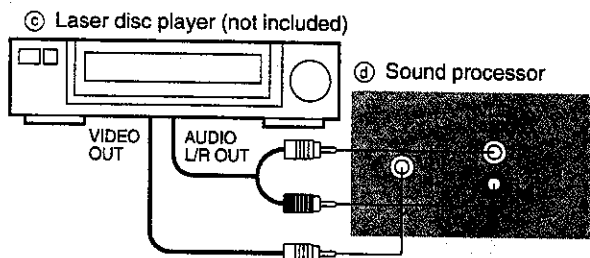
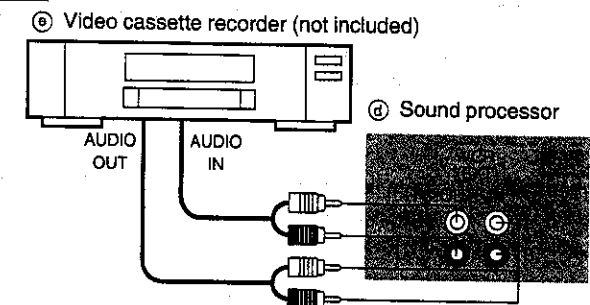
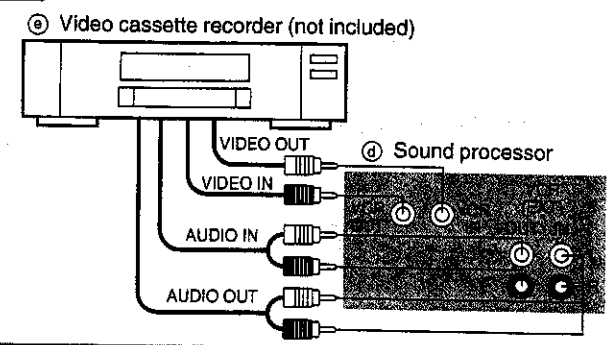
AM outdoor antenna (not included) **B**

Connect the outdoor antenna without removing the AM loop antenna. Run 5 to 12 m of vinyl-covered wire horizontally along a window or other convenient location.

Note

When the unit is not in use, disconnect the outdoor antenna to prevent possible damage that may be caused by lightning. Never use an outdoor antenna during an electrical storm.



A**B****C****D****E**

Connections

External unit connections

- Make sure that the power supply for all components has been turned off before making any connections.
- For details, refer to the operating instructions of the units which are to be connected.
- All peripheral components and cables sold separately.

S-video cable (not included)



Video cable (not included)



Stereo phono cable (not included)

White (L) Red (R)

Television set (with S-VIDEO terminal) **A**

To enjoy better picture clarity, connect a S-video cable (not included).

Laser disc player

For U.K. and Europe **B**

For Australia, New Zealand and others **C**

Video cassette recorder

For U.K. and Europe **D**

For Australia, New Zealand and others **E**

Note

You cannot record copy-protected discs to the video cassette recorder.

Even if the recording is completed, the video tape will have much noises.

To improve the sound effect

The front speakers have built-in subwoofers, but it is possible to connect another subwoofer (not included) to the SUBWOOFER OUT terminal on the rear panel of the sound processor.

If you have connected the subwoofer, press and hold [S.WOOFER] for about 2 seconds so "SUB W ON" is shown on the display.

Region management information



DVD stereo system is manufactured to respond to Region management information that is described on a DVD disc. If the number on the DVD disc does not correspond to the system, disc play cannot be done.

The Region numbers for this system

For Australia and New Zealand: 4

For others: 2

Confirm the Region number at the back of your system.

This product incorporates copyright protection technology that is protected by method claims of certain U.S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision Corporation. Reverse engineering or disassembly is prohibited.

Types of discs B

This system can play back discs bearing any of the marks:
 ① DVD ② V-CD (Video CD) ③ CD

Note

• This system can not play the following discs

DVDs with a region number from outside the country of purchase and not marked "ALL"/DVD-ROM/DVD-R/DVD-RAM/CD-ROM/CDV/CD-G/Photo CD/CD-R.

• This system cannot correspond DTS discs

This system doesn't have DTS decoder, so you cannot enjoy the disc encoded with DTS.

Type of disc for the type of TV B

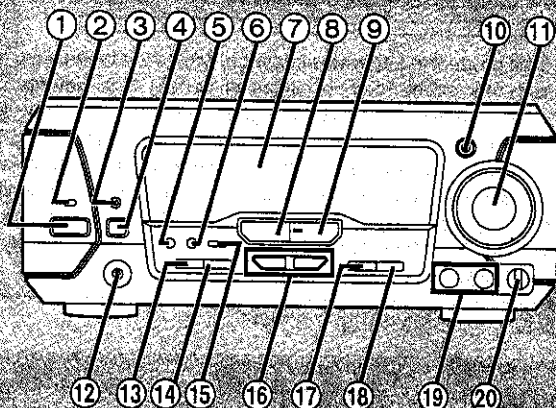
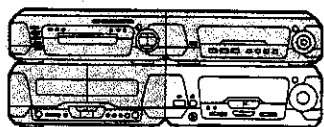
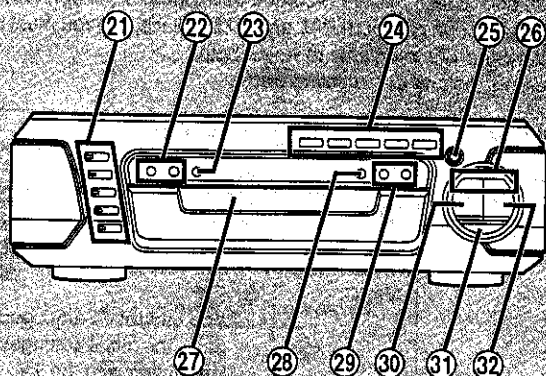
DVDs and Video CDs are recorded using either PAL or NTSC. The system can play both PAL and NTSC discs, but you must have a Multi-system TV to be able to watch both. Refer this table when selecting discs.

TV type	Disc	TV Monitor
Multi-system TV	PAL	① ○
	NTSC	② ○
NTSC TV	PAL	③ ×
	NTSC	④ ○* You cannot do any operation (e.g., the initial settings) by interacting with the TV screen.
PAL TV	PAL	⑤ ○
	NTSC	⑥ ○

Note

The bottom part of the picture may be cut off if the Video CD played does not comply with standards.

*To play NTSC disc at the NTSC TV, change the initial setting of DVD/Video CD/CD changer.

A**B**

Front panel controls

Tuner amplifier section

- ① Standby/on switch (⏻/⏻) 13
Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.
- ② Standby Indicator (⏻)
When the unit is connected to the AC mains supply, this indicator lights up in standby mode and goes out when the unit is turned on.
- ③ Play timer/record timer button and indicator (⏻/⏻ REC) 51, 52
- ④ ECO mode button (ECO) 13
- ⑤ Clock/timer, demo button (CLOCK/TIMER, -DEMO) 12, 13, 51, 52
- ⑥ FM mode select button (FM AUTO/MONO) 15
- ⑦ Display
- ⑧ Source input select button (INPUT SELECTOR) 54
- ⑨ Tuner/band select button and indicator (TUNER/BAND) 14
- ⑩ Super woofer button and indicator (S.WOOFER) 41
- ⑪ Volume control (VOLUME) 15
- ⑫ Headphones jack (PHONES) 54
- ⑬ Tuning mode select button (TUNING MODE) 14
- ⑭ Set button (SET) 13
- ⑮ **Except for U.K. and Europe**
Echo button (ECHO) 30
- ⑯ Tuning buttons (v, ^ TUNING) 13
- ⑰ **For U.K. and Europe**
RDS PS display mode select button (RDS DISP MODE—PS) 16
For Australia, New Zealand and others
Karaoke mode select button (KARAOKE) 29
- ⑱ **For U.K. and Europe**
RDS PTY display mode select button (RDS DISP MODE—PTY) 16
For Australia, New Zealand and others
Voice mute button (V.MUTE) 29
- ⑲ **Except for U.K. and Europe**
Microphone jacks (MIC 1, 2) 28
- ⑳ **Except for U.K. and Europe**
Microphone volume control (MIC VOL) 28

DVD/Video CD/CD changer section

- ㉑ Disc select buttons and indicators (DISC, 1–5) 18
Green: Indicates that the tray is ready to play its disc or to be opened.
- ㉒ Repeat function buttons (A-B REPEAT, REPEAT) 21
- ㉓ CD edit button (CD EDIT) 39
- ㉔ Disc direct open buttons (DIRECT OPEN, DISC1–DISC5) 17
- ㉕ Disc tray open/close button (⏻ OPEN/CLOSE) 17
- ㉖ Skip buttons (⏮, ⏭ SKIP) 20
- ㉗ Disc tray 17
- ㉘ Disc management select button (1 DISC/ALL) 27
- ㉙ Slow-motion/search buttons (⏮, ⏭ SLOW/SEARCH) 20, 23
- ㉚ Stop button (■) 18
- ㉛ Pause button (⏮) 20
- ㉜ Play button and indicator (▶) 18
The color of the indicator depends on the operation.
If stopped: orange
If playing: green
If paused: flashes green

Front panel controls

Cassette deck section

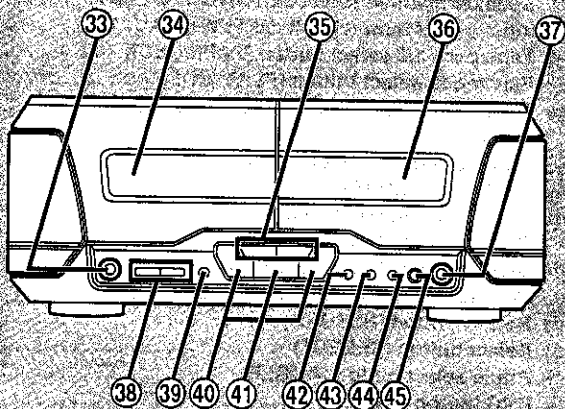
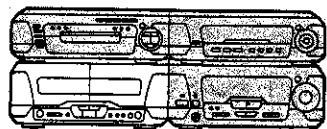
- 33 Deck 1 cassette holder open button (▲ OPEN) 34
- 34 Deck 1 cassette holder
- 35 Fast forward/rewind buttons (◀◀, ▶▶) 35
- 36 Deck 2 cassette holder
- 37 Deck 2 cassette holder open button (▲ OPEN) 34
- 38 Counter reset, display buttons
(COUNTER, RESET, DISPLAY) 35
- 39 Deck 1/deck 2 select button (DECK 1/2) 34
- 40 Playback buttons and indicators (<I, >I) 34
The color of the indicators depends on the operation taking place.
If stopped, fast forwarding or rewinding: orange
If playing or recording: green
While carrying out TPS or recording is on Standby: flashes green
- 41 Stop button (■) 34
- 42 Dolby noise reduction button (DOLBY NR) 34
- 43 Reverse mode select button (REV MODE) 34
- 44 Tape edit button (TAPE EDIT) 40
- 45 Record pause button (● REC PAUSE) 37, 38

Sound processor section

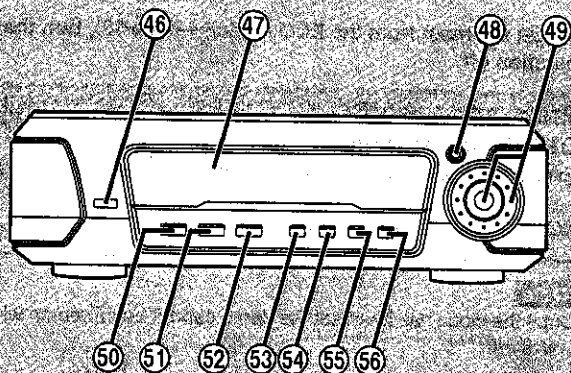
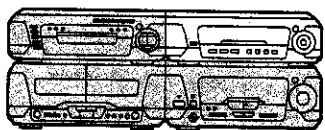
- 46 Display mode select button (DISPLAY MODE) 50
- 47 Display
- 48 3D AI EQ button (3D AI EQ) 43
- 49 Jog control and joy stick (MULTI JOG) 41
- 50 DOLBY PRO LOGIC on/off button and indicator
(□□ PRO LOGIC, OFF/ON) 47
- 51 Super surround button and indicator
(SUPER SURROUND) 48
- 52 Simulated stereo on/off button and indicator
(SIMULATED STEREO) 49
- 53 Center focus button and indicator (CENTER FOCUS) ... 48
- 54 Virtual rear surround button and indicator
(VIRTUAL REAR SURROUND) 49
- 55 Multi rear surround button and indicator
(MULTI REAR SURROUND) 49
- 56 Seat position button and indicator
(SEAT POSITION) 50

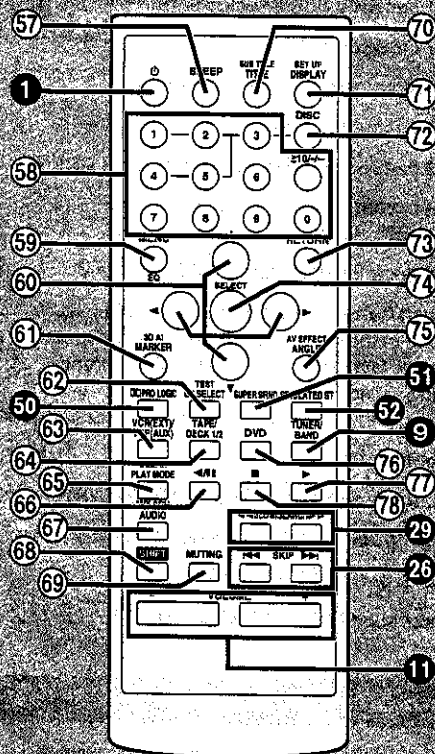
Before use

A



B





Front panel controls

Remote control

Buttons such as ❶ function in exactly same way as the buttons on the main unit.

❶	Sleep timer button (SLEEP)	53
❷	Numeric buttons (1-9, 0, ≥ 10 /-/-)	23
❸	Menu button (MENU)	26
❹	Cursor buttons ($\blacktriangleleft$, $\blacktriangle$, $\blacktriangleright$, $\blacktriangledown$)	18
❺	Marker button (MARKER)	22
❻	Speaker channel select button (CH SELECT)	46
❼	Input select button [VCR (EXT)/VDP (AUX)]	54
❽	Tape/deck 1/2 select button (TAPE/DECK 1/2)	34
❾	Play mode select button (PLAY MODE)	23
❿	Tape reverse playback/disc pause button ($\blacktriangleleft$ /II)	20, 34
⓫	Audio select button (AUDIO)	25
⓬	Shift button (SHIFT)	
⓭	Muting button (MUTING)	50
⓮	Title select button (TITLE)	26
⓯	Display select button (DISPLAY)	31
⓰	Disc select button (DISC)	23
⓱	Return button (RETURN)	19
⓲	Select button (SELECT)	18
⓳	Angle select button (ANGLE)	27
⓴	DVD button (DVD)	23
⓵	Disc play/tape forward playback button ($\blacktriangleright$)	23, 34
⓶	Disc/tape stop button ($\blacksquare$)	18, 34

Using the [SHIFT] button

Functions labeled with orange letters are operated by pressing [SHIFT] then pressing the required button.

•[SUB TITLE]	25	•[AV EFFECT]	48
•[SET UP]	55	•[TEST]	46
•[EQ]	41	•[CLEAR]	24
•[3D AI]	43	•[MIX 2CH]	46

Turning the demo function off (DEMO) A

If the clock has not been set, a demonstration of the display is shown when the unit is off.

This function is set to on at the time of purchase.

To get the most from the ECO mode ($\Rightarrow$ page 13), turn the demo function off.

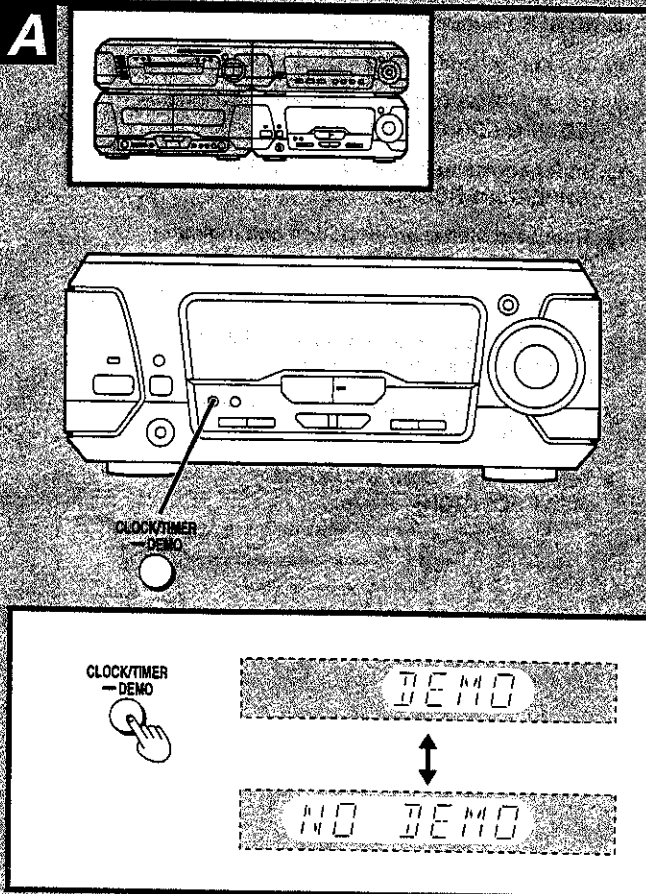
Press and hold [CLOCK/TIMER, -DEMO] until "NO DEMO" is displayed.

Every time you press and hold the button;

NO DEMO (off) $\rightleftharpoons$ DEMO (on)

Note

Once the clock has been set the demo cannot be turned on when the unit is off.



Setting the time

This is a 24-hour display clock.

The figure shows how to set the time for 16:25.

1 Press [⏻/⏻] to turn the unit on.

2 **1** Press [CLOCK/TIMER, -DEMO] to show "CLOCK".

Every time you press the button;
CLOCK → ⏻ PLAY → ⏻ REC → Original display

Within 5 seconds:

2 Press [SET].

3 **1** Press [TUNING (∨ or ∧)] to set the present time on the display.

The time display can be changed in one minute units by tapping the buttons, and quickly by holding down the buttons.

2 Press [SET].

The display will return to the previous display after about 3 seconds.

To display the clock

Press [CLOCK/TIMER, -DEMO].

The time is shown for about 5 seconds.

The time is shown constantly when the unit and ECO mode are off.

ECO mode

Turn ECO mode on to reduce the amount of energy consumed while the unit is in standby mode.

This mode is set to on at the time of purchase.

	NORMAL (off)	ECO (on)
Display	Clock display, etc.	Blank
Power consumption in standby mode	11 W	• 0.6 W (For U.K., Europe, Australia and New Zealand) • 1.0 W (For others)

The demonstration is shown if DEMO is on, regardless of the condition of the ECO mode. Turn DEMO off if ECO is used.

Turning ECO on and off:

Press [⏻/⏻] to turn the unit on.

Press [ECO].

The current ECO mode is displayed.

Press again to change the mode.

The display changes each time the button is pressed:

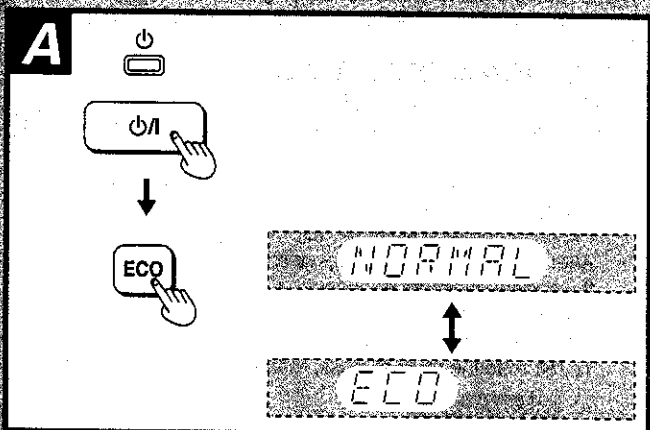
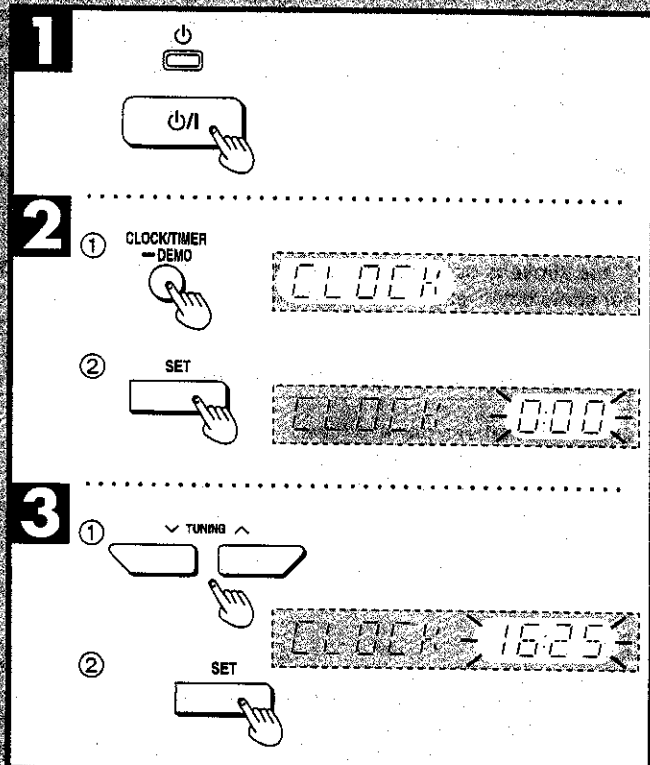
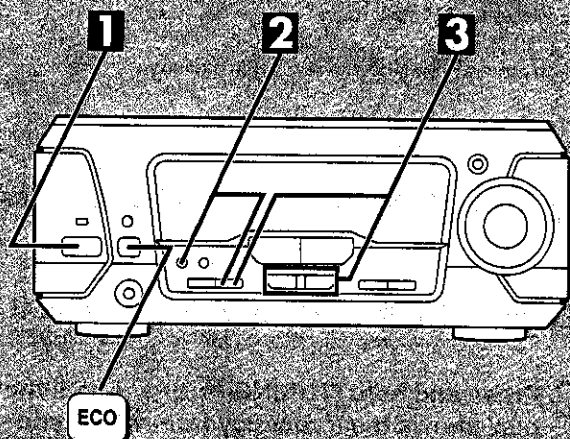
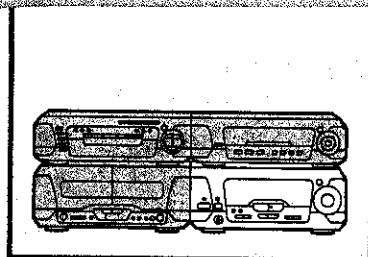
NORMAL (off) ↔ ECO (on)

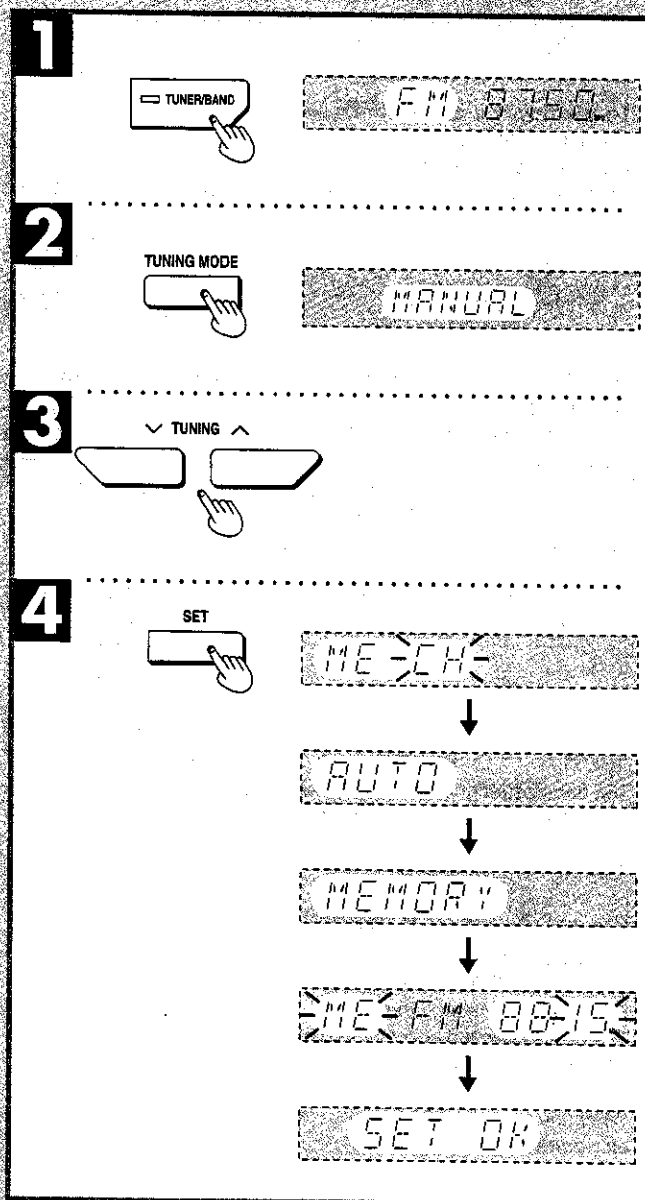
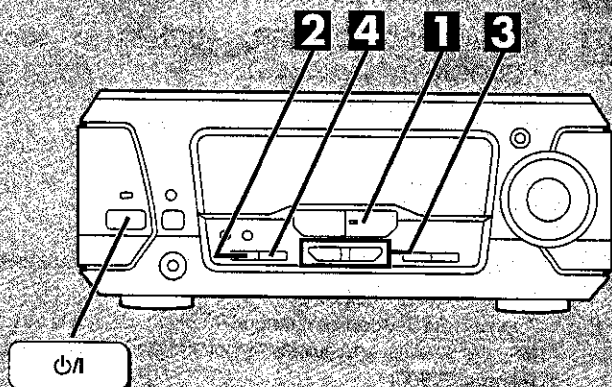
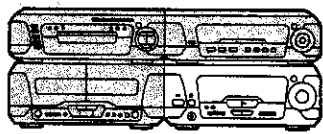
When ECO is on:

When the power is switched off, standby indicator lights, but the display panel remains blank.

Note

When the unit is off, the mode can be switched from NORMAL to ECO, but not the other way.





Presetting radio stations

- Once stations have been preset, you can easily select them from the tuner amplifier or the remote control.
- The frequencies are automatically preset (in sequence from lower to higher frequencies) into the memory: "channels" 1 to 39 are available for the presetting of FM stations and "channels" 21 to 39 are available for AM stations.

This example shows how to preset FM stations.

Preparation

Press [P/I] to turn the unit on.

1 Press [TUNER/BAND] to select the desired band.

Each time you press this button; FM ↔ AM

2 Press [TUNING MODE] to select "MANUAL".

Each time you press this button; MANUAL ↔ PRESET

3 Press and hold [TUNING (v or ^)] until the display shows the frequency from which you want to begin automatic memory presetting.

Press [TUNING (v or ^)] momentarily to stop scrolling when the displayed frequency approaches the desired frequency. Tap [TUNING (v or ^)] a few times until the desired frequency is reached.

4 Hold down [SET].

Release your finger when the words "AUTO MEMORY" scroll across the display.

If the above is not possible because radio signals are weak or for some other reason ("ERROR" appears), do the following.

Presetting only your favorite stations

Preset the stations one at a time.

- 1 Press [TUNER/BAND] to select the desired band.
- 2 Press [TUNING MODE] to select "MANUAL".
- 3 Press [TUNING (v or ^)] to tune in the desired broadcast.
- 4 Press [SET].
- 5 Press [TUNING (v or ^)] to select the desired preset channel.
- 6 Press [SET].

Note

When you preset a broadcast station to a channel that has already been preset, the previous presetting will be erased. So if, for example, FM frequencies are preset from channel 1 to 39 and then AM frequencies are preset, the first AM frequency will be preset to channel 21 (thus erasing the FM presetting to channel 21), the second AM frequency will be preset to 22 (erasing FM 22), and so on.

Except for U.K., Europe and New Zealand

About allocation settings

Each country allocates broadcast band according to their particular needs.

This system can receive AM broadcasts allocated in 10 kHz steps.

To change the steps (9 kHz ↔ 10 kHz)

- 1 Press and hold [TUNER/BAND].

After a few seconds the display changes to a flashing display of the current minimum frequency.

- 2 Continue to hold [TUNER/BAND] down.

When the minimum frequency changes, release the button.

To return to the original steps, repeat the above steps.

Listening to radio broadcasts

This example shows how to tune in FM stations.

Preparation

Press [⏻/⏮] to turn the unit on.

- 1 Press [TUNER/BAND] to select the desired band.

Each time you press this button; FM ↔ AM

- 2 Press [TUNING MODE] to select "PRESET" or "MANUAL".

Each time you press this button; MANUAL ↔ PRESET

- Select "PRESET" when stations are preset (⇒ page 14).
- Select "MANUAL" when stations are not preset.

- 3 Press [TUNING (∨ or ∧)] to tune in the desired broadcast.

"STEREO" lights when an FM stereo broadcast is being received.

"TUNED" lights when you precisely tune in a broadcast station.

Automatic scanning (when you select "MANUAL" in step 2):

Press and hold [TUNING (∨ or ∧)] until the displayed frequency starts to scroll.

- The scrolling of the frequency will automatically stop if a frequency is located during the tuning process.
- When there is excessive interference, automatic scanning may not function.

To cancel automatic scanning, press [TUNING (∨ or ∧)] once again.

- 4 Adjust the volume.

For tuning by remote control (when you select "PRESET" in step 2 above):

Specify the channel you want with the numeric buttons.

To select a two-digit channel:

Press [≥10/-] and then the two numbers you want within 10 seconds or so.

If noise is excessive in the FM stereo mode

Press [FM AUTO/MONO].

The sound reception mode switches to "MONO" (monaural) and "MONO" lights.

The sound will then be heard in monaural.

If the broadcast signal is weak, or if there is a large amount of interference, you will get a clearer sound.

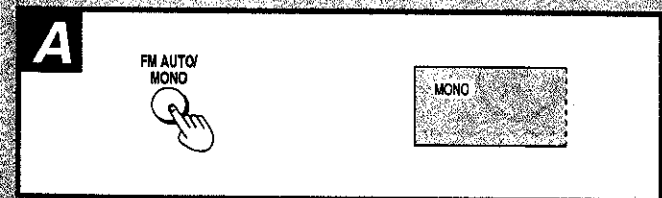
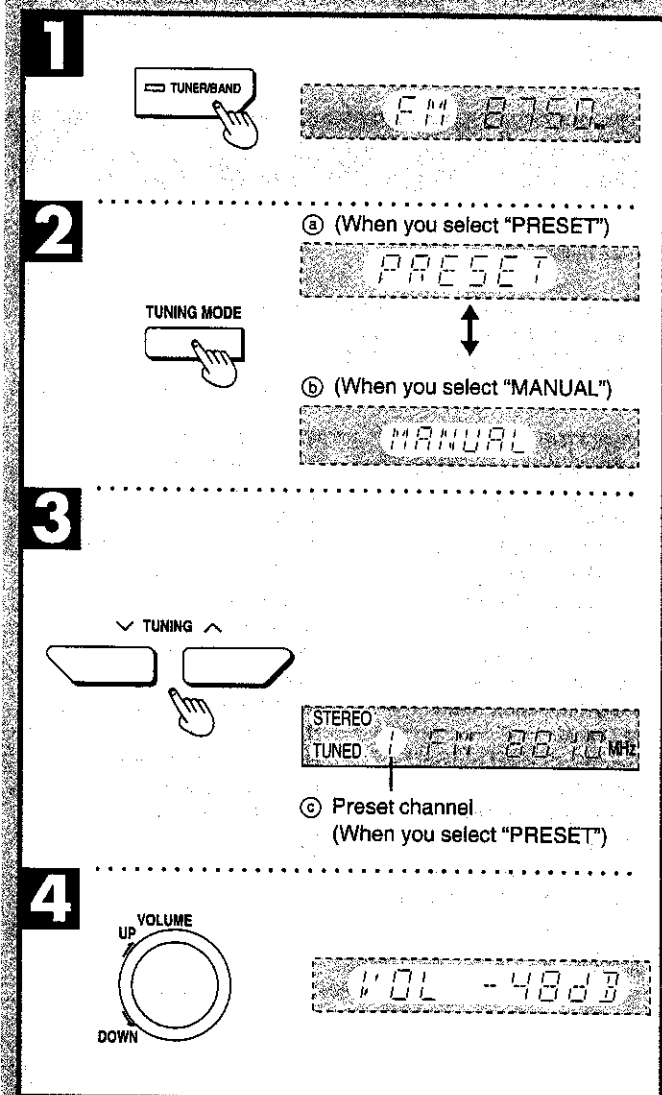
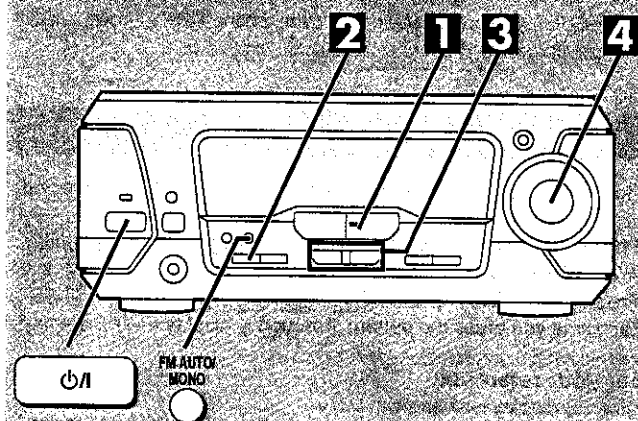
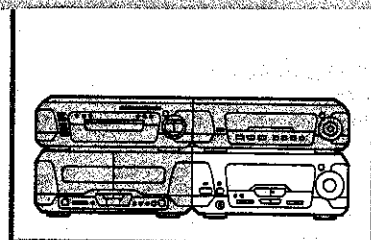
To cancel the "MONO" mode, press the button again.

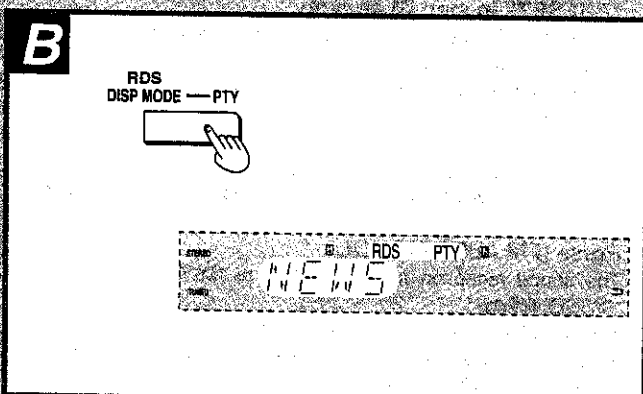
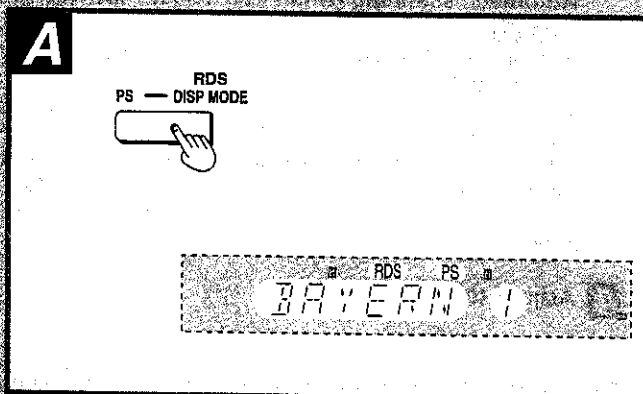
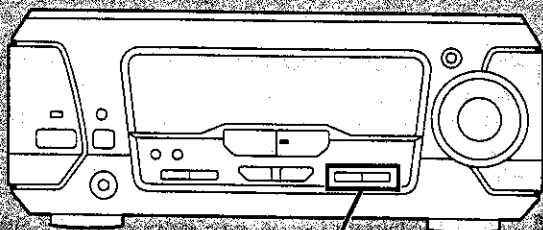
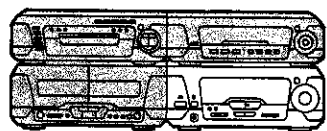
When "MONO" is off

Use this setting for normal listening. Both stereo and monaural sounds can be heard as they are.

Note

- "MONO" is cancelled when the frequency is changed.
- Stations can be preset in monaural. Carry out presetting manually (⇒ page 14).





Enjoying RDS broadcasts For U.K. and Europe

This unit lets you take advantage of the Radio Data System (RDS) in areas where RDS broadcast services are received. This system provides useful information, utilizing a 57 kHz subcarrier above the audible range, in addition to the main FM signal.

If the station you are listening to is transmitting RDS signals, "RDS" will light up on the display.

Station display (PS display)

The name of the station is displayed when PS signals are received.

To display the name of a broadcasting station 
(When the FM station is received)

Press [PS—DISP MODE].

Each time you press the button; Frequency display ↔ PS display

For your reference

If the PS display isn't shown;

Press and hold [PS—DISP MODE] for about 4 seconds.

The mode switches every time the button is pressed and held;

MODE1 ↔ MODE2

Display by particular type of program (PTY)

There are 31 displays to represent different types of programs.
(See below)

To display the type of a program 
(When the FM station is received)

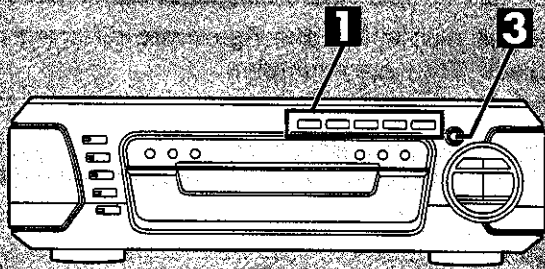
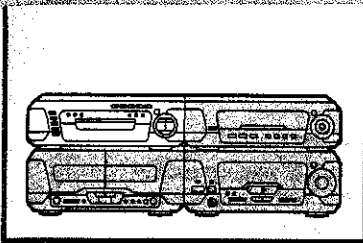
Press [DISP MODE—PTY].

Each time you press the button; Frequency display ↔ PTY display

NEWS (News)	WEATHER (Weather)
AFFAIRS (Current Affairs)	FINANCE (Finance)
INFO (Information)	CHILDREN
SPORT (Sport)	(Children's programmes)
EDUCATE (Education)	SOCIAL A (Social Affairs)
DRAMA (Drama)	RELIGION (Religion)
CULTURE (Culture)	PHONE IN (Phone in)
SCIENCE (Science)	TRAVEL (Travel)
VARIED (Varied)	LEISURE (Leisure)
POP M (Pop music)	JAZZ (Jazz)
ROCK M (Rock music)	COUNTRY (Country music)
M.O.R M	NATIONAL (National music)
(Middle of road music)	OLDIES (Oldies music)
LIGHT M	FOLK M (Folk music)
(Light classical music)	DOCUMENT (Documentary)
CLASSICS	TEST (Alarm test)
(Serious classical music)	ALARM (Alarm)
OTHER M (Other music)	

Note

RDS display may not be possible if reception is poor.



How to load discs

Always stop the changer before loading or changing discs. You cannot change discs while a disc is playing.

1 Press [DIRECT OPEN, DISC1]--[DISC5], whichever you want to open.

2 Insert a disc in the tray.
Repeat steps 1-2 to load the other trays.

3 Press [▲ OPEN/CLOSE].

If "DVD" is selected as the input source and a DVD or video CD with PBC is inserted, the Automatic Play function is activated. (Refer to the following article)

Disc indicators (DISC1-DISC5)

These indicators light green to show a tray is in the playing position, whether it is loaded or not.

To prevent damage

Always observe the following points.

- Load only 1 disc per tray. **A**
- Load discs as shown in figure. **B**
An adapter is not needed with 8 cm discs (singles).
- Set the system on a flat, level surface.
Do not set it on top of magazines, inclined surfaces, etc.
- Do not move the system while trays are opening/closing, or when loaded.
Always unload all trays before moving the system.
- Do not put anything except discs in trays.
- Do not use cleaning discs or discs which are badly warped or cracked.
- Do not use discs with poorly attached labels or stickers. Adhesive protruding from underneath stickers or left over from peeled off stickers can cause the system to malfunction.
- Do not use irregular shaped discs. **C**

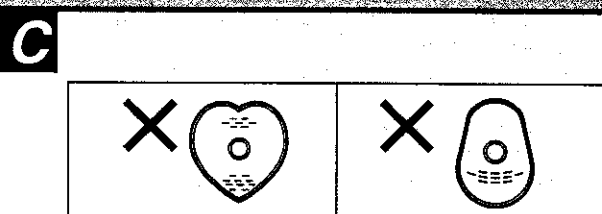
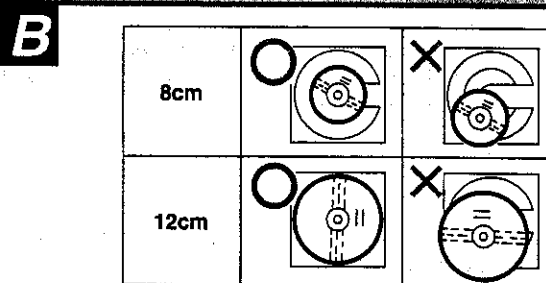
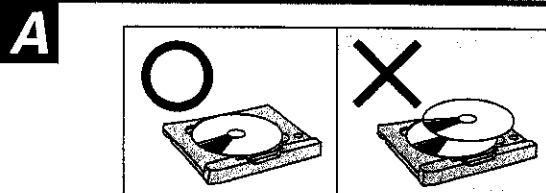
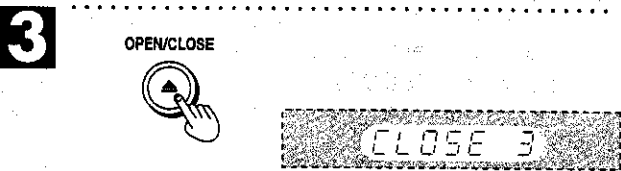
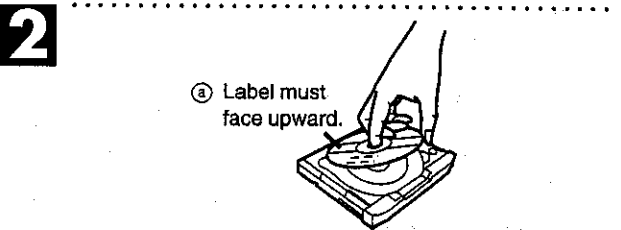
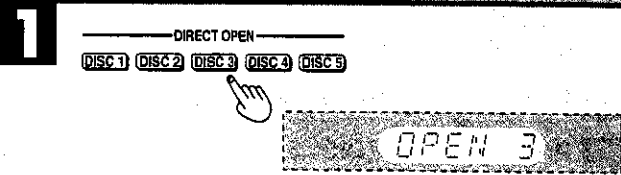
Automatic Play function

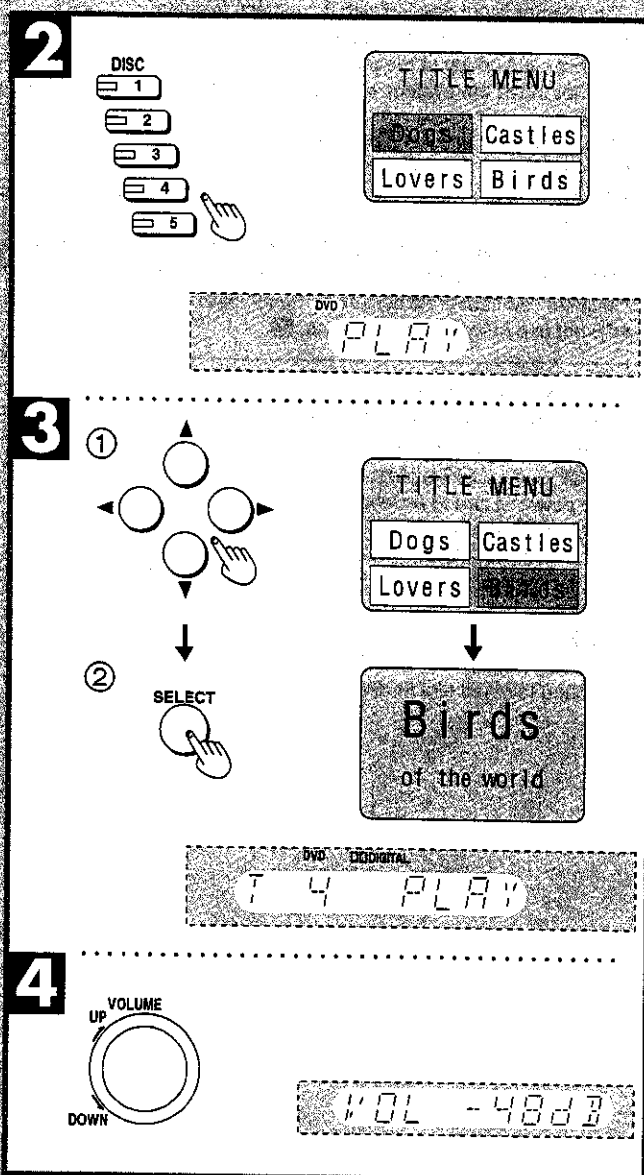
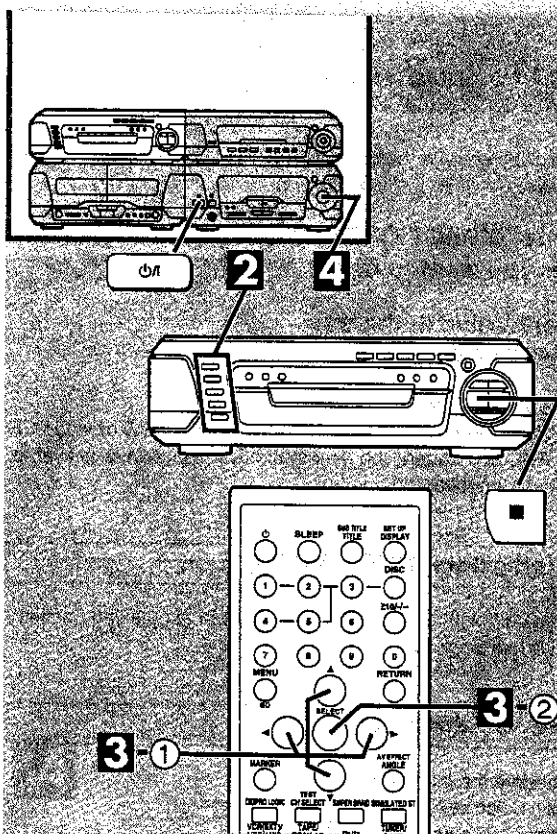
Most of DVDs and video CDs with PBC start playing if any of the following operations is performed:

- [▲ OPEN/CLOSE] is pressed to close the tray after inserting a disc.
- The power is turned on when a disc is in the changer and the input selector is set to DVD.
- "DVD" is selected with [INPUT SELECTOR] on the unit or [DVD] on the remote control when a disc is in the changer.

Note

Press [■] to stop the disc if play starts while setting the timers or preparing to make a recording.





Playing discs

Before playing DVDs and Video CDs

The menu screen language has been factory preset to English. If you would like to change the menu language, please refer to "Selecting menu language" (⇒ page 56).

Some displays in the figure are different for discs. They are examples.

Normal play

DVD V-CD CD

Preparation:

- ① Switch the TV on and set it to "Video" input when playing DVDs or video CDs.
- ② Press [⏻/I] to turn the unit on.

1 Insert discs in the trays. (⇒ page 17)

2 Press [DISC1]–[DISC5] to select the disc you want. Play begins.

When a menu screen appears on the TV monitor

In case of interactive DVDs or Video CDs with playback control, a menu screen appears on the TV monitor. Perform step 3 as follows.

3 by remote control only

① Press one of the cursor buttons (◀, ▶, ▼, ▲) to select the menu items.

② Press [SELECT].

You can select the desired item by pressing the numeric button(s).

A different menu is displayed or play of the selected item will begin.

For the menu operations, refer to page 19.

4 Adjust the volume.

To stop the disc

Press [■].

Resume function is activated.

Resume function

"RESUME" is displayed when the Resume function is active.

Press [▶] and play resumes from the point it was last stopped at.

This position is kept in the memory even if the unit is turned off, so it is convenient when watching movies.

To cancel

Press [■] while the unit is stopped.

Note

- This function only works on discs that have their elapsed time displayed during playback.
- This function may not work with some DVDs.
- Ensure this function has been canceled before recording.
- This function is automatically canceled by the following.
 - The tray is opened.
 - Another disc is moved to the playing position.

When "NO DISC" appears on the display

It indicates there is no disc on the tray in the playing position or the disc is placed in upside down (and it is a single sided disc).

Playing discs

About menu operations

When the menu continues onto another screen **A**

After step **2** on page 18, press [SKIP ►►].

(Skip buttons may not be effective depending on the disc.)

• To return to the previous menu screen

Press [◄◄ SKIP].

• For operation, refer also to the jacket of the disc concerned.

To return to the menu screen **B**

by remote control only

With some discs, playback may start without showing the menu screen. To show the menu screen, do the following.

• DVD

Press [TITLE], [MENU] or [RETURN].

(Which button is pressed depends on the disc.)

• Video CD

Press [RETURN].

Note

The disc continues to rotate while the menu is displayed even after the unit has finished playing a particular item. When no further selections are to be played, be sure to press [■] to clear the menu display.

To enjoy Video CDs with playback control without using menus

Refer to the disc jacket concerned for the track numbers.

① Press [■] after the menu screen appears.

"PBC" disappears on the display.

② Press the numeric button(s) to select the desired track.
Play begins.

Chapter Play function (DVD only)

This function plays a few seconds of each chapter from the beginning of the title up to the point where operation was stopped at the second chapter or more.

When you play a DVD with chapters recorded on it, stop the disc:

① Press [▷] (play).

The message, "PRESS PLAY to chapter preview", is shown on the TV.

② Press [▷] (play) again while the message is on the TV.

After the chapter play, normal play resumes from the point that the disc was stopped.

When "⊘" appears on the TV monitor when a button is pressed

It indicates the corresponding operation is prohibited by the unit or the disc.

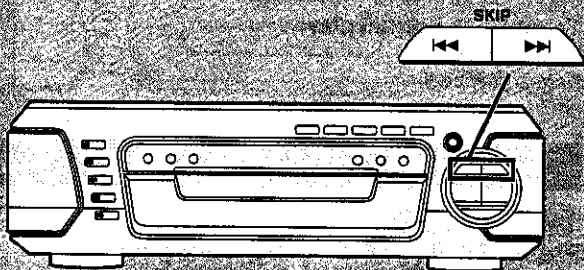
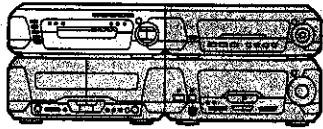
When "96 kHz 24 bit" appears on the display

This message indicates that the disc being played is a disc with high quality sound recorded with a sampling frequency of 96 kHz and 24 bits.

When "NO PLAY" appears on the display

It indicates that the disc being played does not correspond to the system, disc play cannot be done. (⇒ page 9)

A

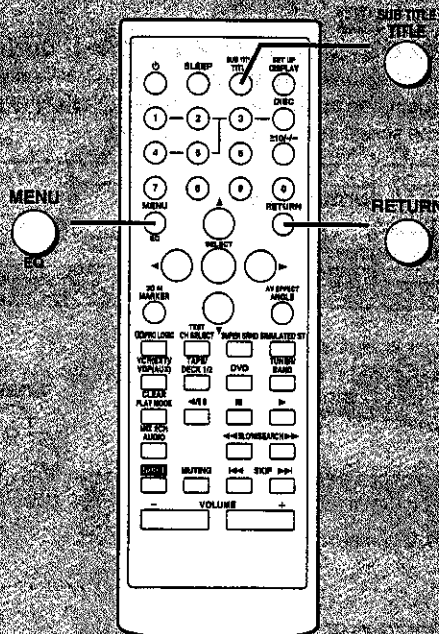


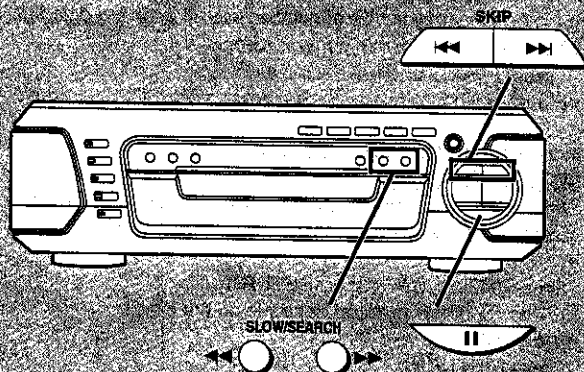
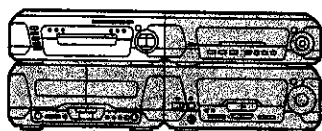
1 EAST ASIA
2 SOUTH ASIA
3 MIDDLE EAST
4 AFRICA
5 EUROPE



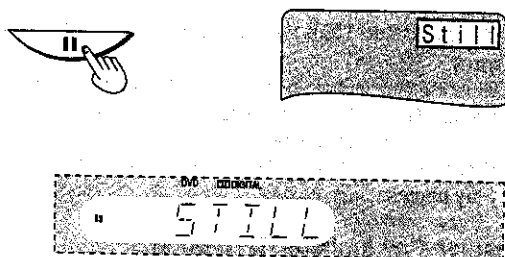
6 OCEANIA
7 NORTH AMERICA
8 CENTRAL AMERICA
9 SOUTH AMERICA
10 ANTARCTIC

B

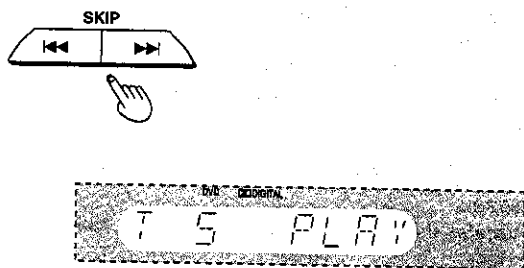




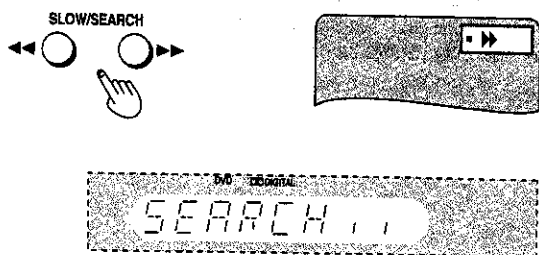
A



B



C



Other playing methods for discs

Still picture (Pause)

A

DVD V-CD CD

Press **[II]** during play.

•DVD/Video CD:

The system will be placed in the still picture mode.

•Audio CD:

The system will be placed in the pause mode.

To return to normal play

Press **[>]** (play).

Normal play begins.

Skip function

B

DVD V-CD CD

Press **[SKIP (◀◀ or ▶▶)]** during play.

Forward	▶▶	A chapter (DVD) or a track (Video CD/CD) is skipped each time the button is pressed.
Backward	◀◀	When the button is pressed once midway through a chapter/track, play returns to the beginning of that chapter/track. When it is pressed again, a chapter/track is skipped each time the button is pressed.

For your reference

When **[SKIP (◀◀ or ▶▶)]** is pressed during play of DVDs/Video CDs, a menu screen may sometimes be recalled.

Search function

C

DVD V-CD CD

Press **[SLOW/SEARCH (◀◀ or ▶▶)]** during play.

The speed of search is relatively slow at first. When the button is pressed again, the speed becomes faster. (Each time the button is pressed, the speed increases up to 5 steps.)

To return to normal play

Press **[>]** (play).

Normal play begins.

Other playing methods for discs

Repeat function

DVD V-CD CD

Repeat play

- Repeat function works only with discs for which the elapsed playing time appears on the display during playback.
- Repeat function may not work correctly with some DVDs.

Press [REPEAT] during play.

Each time this button is pressed, the TV monitor changes as shown and the disc will repeat a chapter, title or a track.

• DVD

- ① Repeat of chapter/"CHAPTER REPEAT"
- ② Repeat of title/"TITLE REPEAT"
- ③ Cancel repeat mode/"REPEAT OFF"

• Video CD/Audio CD

- ④ Repeat of track/"TRACK REPEAT"
- ⑤ Repeat of all contents/"ALL REPEAT"
- ⑥ Cancel repeat mode/"REPEAT OFF"

To cancel repeat play

Press [REPEAT] until "  OFF" (on the TV) or "REPEAT OFF" (on this system) is displayed.

To enjoy program repeat play

If [REPEAT] is pressed during program play (⇒ page 24), the mode changes as follows:

Repeat of programmed track ←

Repeat of all programs

Cancel repeat mode
(Normal program play)

For your reference

Use the 1 DISC/ALL function if you want to listen to all discs repeatedly. (⇒ page 27)

Repeating a specific section (A-B REPEAT)

A-B repeat function may not work correctly with some discs.

- 1 Press [A-B REPEAT] during play at the point where repeat play is to commence (A).
- 2 Press [A-B REPEAT] at the point where repeat play is to be concluded (B).

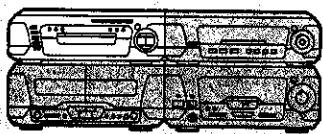
The selected section plays repeatedly.

To cancel A-B repeat play

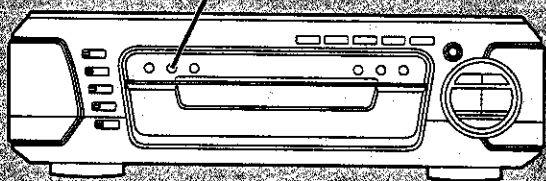
Press [A-B REPEAT] until "  • •" (on TV) or " " (on this system) is displayed.

Note

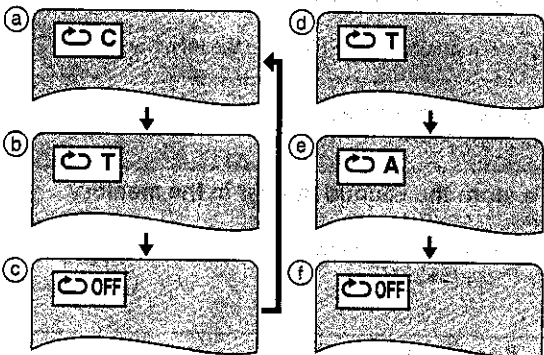
- A-B repeat play works only within a title (DVD) or a track (Video CD/Audio CD).
- Some subtitles recorded around point A or B may fail to appear (DVD).



REPEAT

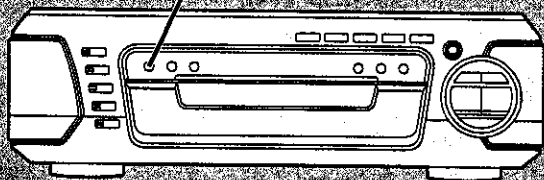


A



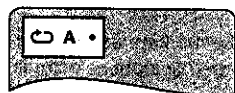
B

1-2



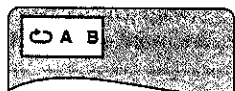
1

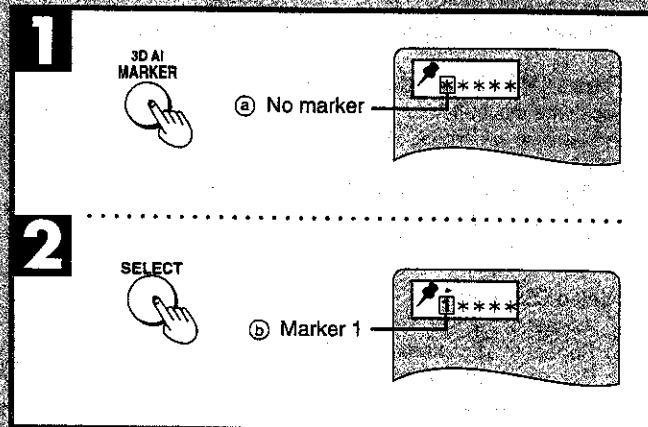
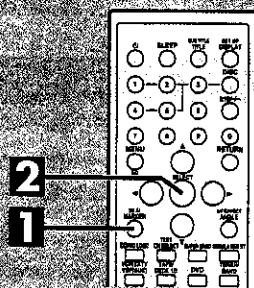
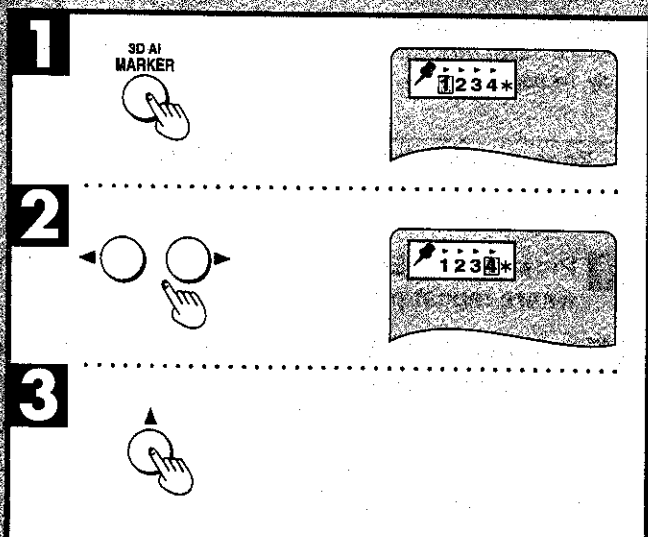
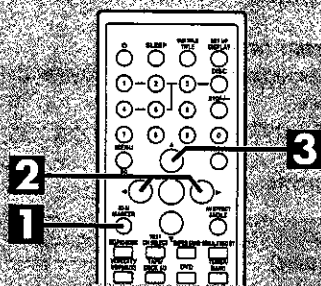
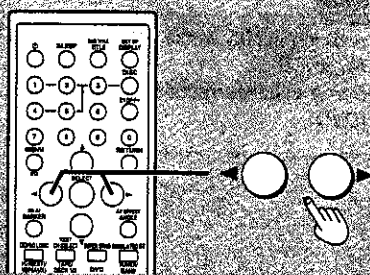
A-B REPEAT



2

A-B REPEAT



A**B****C****Other playing methods for discs****Storing markers in memory to be viewed (heard) again****DVD V-CD CD**

Marker functions work only with discs for which the elapsed playing time appears on the display during playback.

by remote control only

Storing a marker in the memory A

- 1** Press [MARKER] during play.
- 2** Press [SELECT] during play at the starting point to be viewed (heard) again.

Up to 5 markers can be stored in the memory.

To clear the display

Press [MARKER].

To store the second marker in the memory

While MARKER display appears,

- ① Press the cursor button ([▶]).
- ② Press [SELECT].

Recalling a marker B

- 1** Press [MARKER] during play.
- 2** Press [◀] or [▶] to select the marker you want to recall.
- 3** Press [▲] to recall a marker.
Play resumes from the point corresponding to the selected marker.

To clear a marker

Press [CLEAR] ([SHIFT]+[PLAY MODE]) in step 3.
The selected marker is cleared.

Note

- You can't use the Marker function during program play, random play or lighting up "PBC" on the unit.
- Some subtitles recorded around the marker may fail to appear (DVD).

For your reference

All the markers are cleared when the power is turned off, the disc is changed or input selector is switched.

Frame advance**DVD V-CD**

Press [◀] or [▶] in the still picture mode. (→ page 20)

[◀]: Backward (DVD only)

[▶]: Forward (DVD, Video CD only)

Only for forward advance, [II] is also useful.

To return to normal play

Press [▶] (play).

The normal play begins.

Other playing methods for discs

Slow-motion play

A

DVD V-CD

Press [**SLOW/SEARCH** (◀◀ or ▶▶)] in the still picture mode. (→ page 20)

[◀◀]: Backward (DVD only)

[▶▶]: Forward (DVD, Video CD only)

The speed is slow at first. When the button is pressed again, the speed becomes faster. (Each time the button is pressed, the speed increases up to 5 steps.)

To return to normal play

Press [▶] (play).

The normal play is begins.

Playing from the desired track

B

V-CD CD

by remote control only

This function works with video CDs without PBC and audio CDs.

1 Press [DVD].

2 Press [DISC].

3 Press [1]–[5] to select the desired disc.

After the disc has been changed, play begins from the first track on the selected disc.

4 When the first track play begins:

Press the numeric button(s) to select the desired track number.

To select a two-digit track

Press [≥10/-/-] and then the two numbers you want within 10 seconds or so.

For example:

Track no. 20: [≥10/-/-] → [2] → [0]

Track no. 35: [≥10/-/-] → [3] → [5]

Random play

C

V-CD CD

by remote control only

This function works with video CDs without PBC and audio CDs.

1 Press [DVD].

2 Press [PLAY MODE] to select "RANDOM" in the stop mode.

Each time the button is pressed,
PRGM → RANDOM

↑ off ↓

The random play screen appears on the TV.

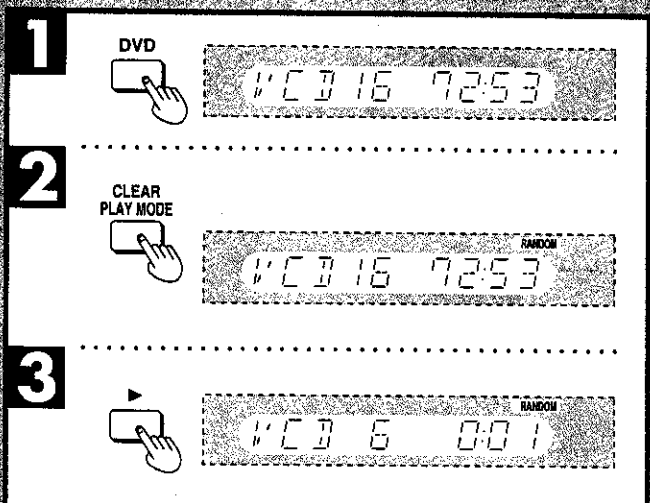
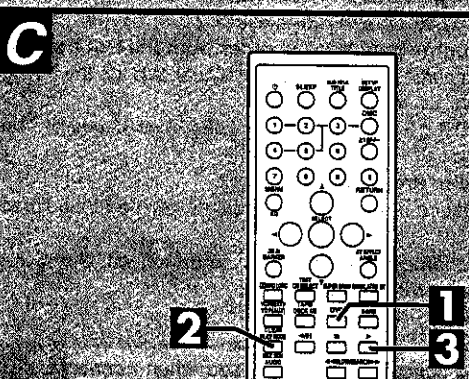
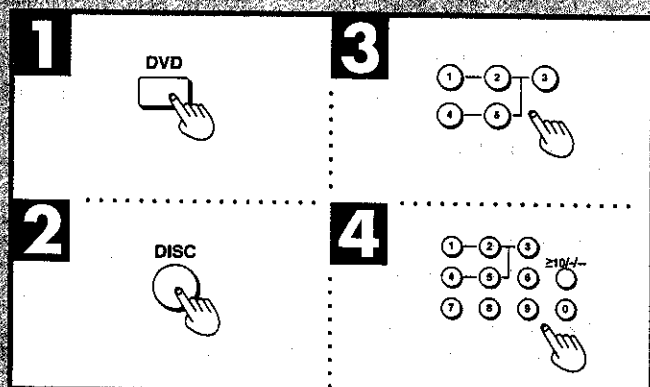
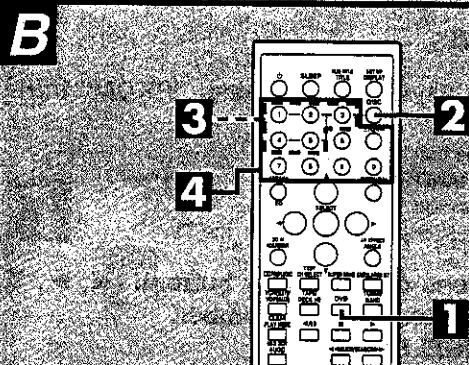
3 Press [▶].

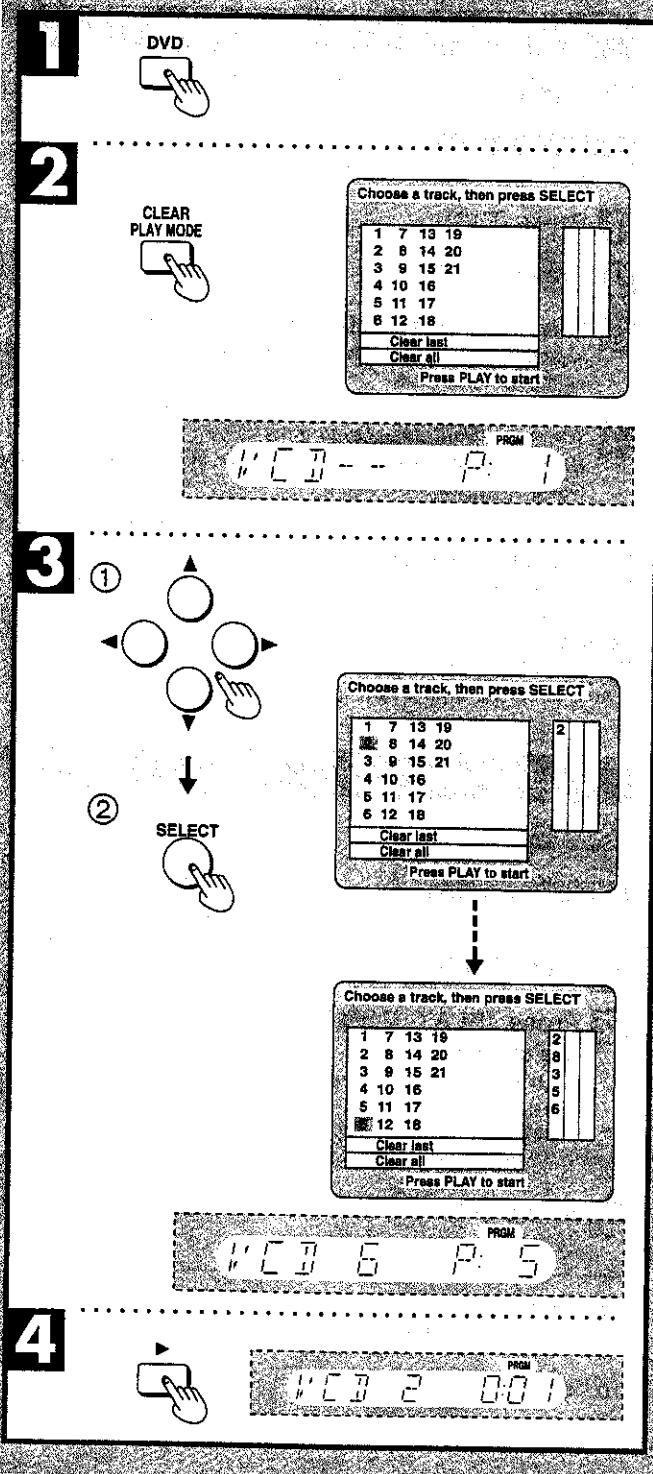
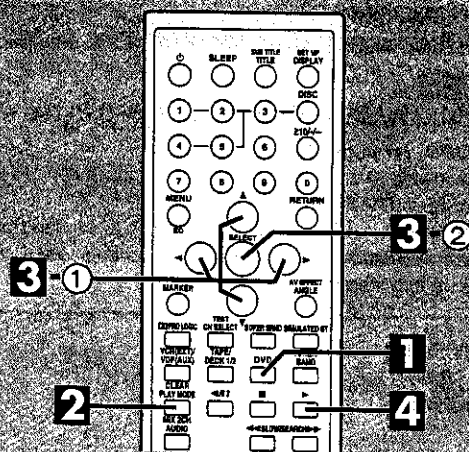
After playback

Play is stopped and the random play screen is displayed.

To cancel random play

Press [PLAY MODE] to select "off" in the stop mode.





Other playing methods for discs

Program play

V-CD CD

by remote control only

- This function works with video CDs without PBC and audio CDs.
- This function allows you to program up to 18 tracks.
- You can control program play by interacting with the TV screen.

- 1 Press [DVD].
- 2 Press [PLAY MODE] to select "PRGM" in the stop mode.

Each time the button is pressed,
PRGM → RANDOM
← off →

The program play screen appears on the TV.

- 3 ① Press one of the cursor buttons (◀, ▶, ▼, ▲) to select the track number.
② Press [SELECT].

You can also select the track number with the numeric button(s).

The selected track is stored in the memory.

Repeat step 3 until you have programmed all tracks you want.

- 4 Press [▶].

After playback

Play is stopped and the program play screen is displayed.

To cancel program play

Press [PLAY MODE] to select "off" in the stop mode.

To clear the programmed contents

When the program play screen is displayed:

- **To clear the programmed track in order from the last track**
Press one of the cursor buttons to select "Clear last" on the TV and press [SELECT].
Pressing [CLEAR] ([SHIFT]+[PLAY MODE]) also clears the last programmed track.
- **To clear the entire program**
Press one of the cursor buttons to select "Clear all" on the TV and press [SELECT].
- Programs are cleared when the power is turned off, the disc is changed or sound source is switched.

Note

The program play function cannot be used when connected to a NTSC TV.

Changing subtitle language

A

DVD

- It is possible to change the subtitle language from the one selected at the initial settings to a different language, if available.
- This operation works only with discs on which multiple subtitle languages are recorded.

by remote control only

1 Press [SUB TITLE] ([SHIFT]+[TITLE]) during play.

When no subtitles are recorded "—" will be displayed instead of the language number.

2 Press [▲] or [▼] until the desired language is selected. (→ page 33)

Pressing the numeric button(s) also changes the subtitle language.

To clear the display

Press [SUB TITLE] or [SELECT].

To clear/display the subtitles

Press [◀] or [▶] to select ON or OFF at the step 2.

Note

The subtitle language may not change immediately.

For your reference

- When the preferred language is not selected even after pressing [▲] or [▼] several times, it means that the language is not available on the disc.
- When the power is turned on or the disc is removed, subtitles appear in the language selected at the initial settings.

Changing audio soundtrack language

B

DVD

- It is possible to change the audio soundtrack language from the one selected at the initial settings to a different language, if available.
- This operation works only with discs on which multiple audio soundtrack languages are recorded.

by remote control only

1 Press [AUDIO] during play.

When no audio soundtrack is recorded, "—" will be displayed instead of the language number.

2 Press [▲] or [▼] until the desired language is selected. (→ page 33)

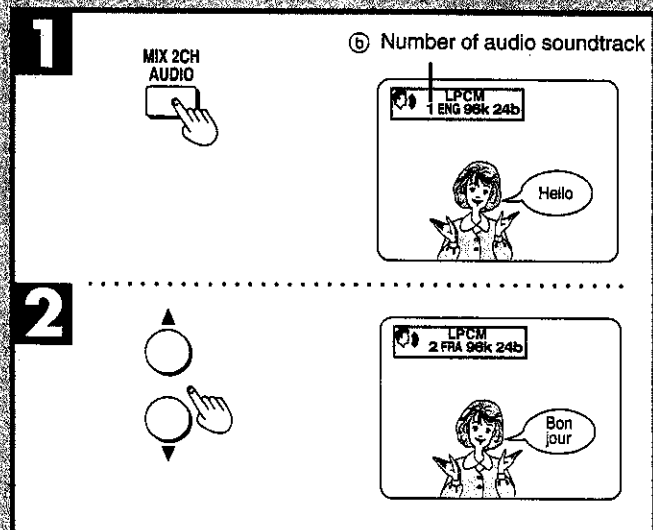
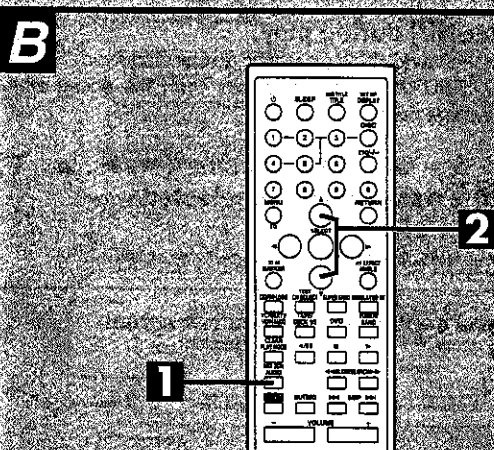
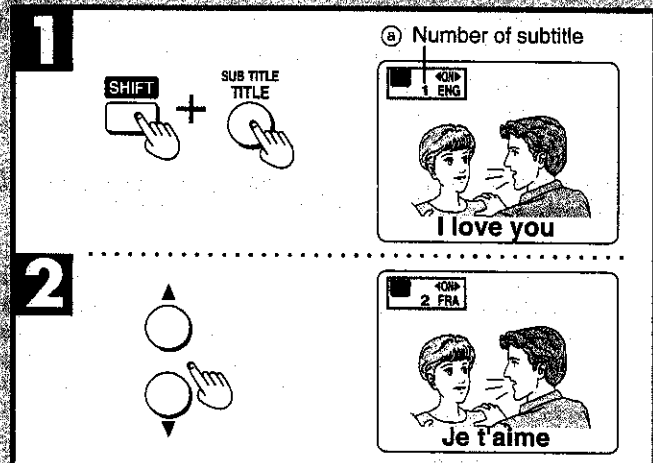
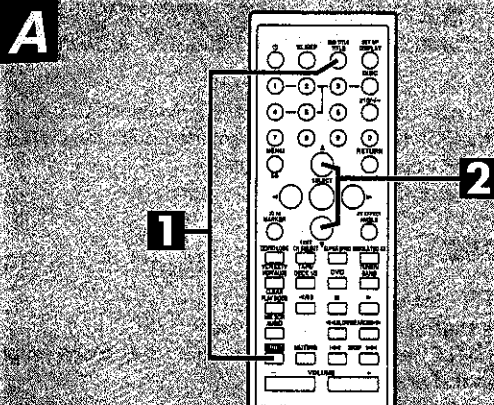
Pressing the numeric button(s) also changes the audio soundtrack language.

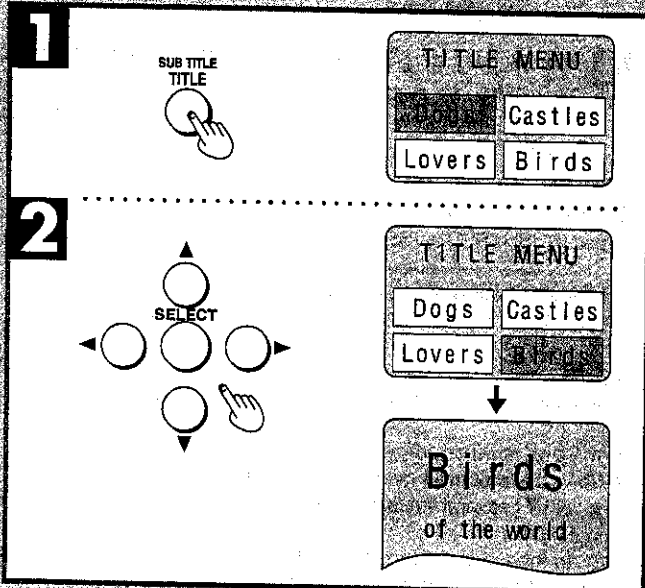
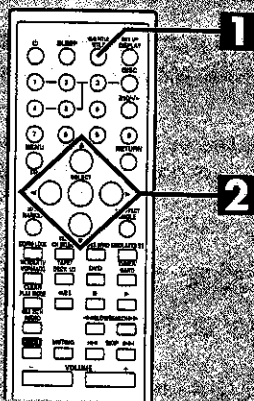
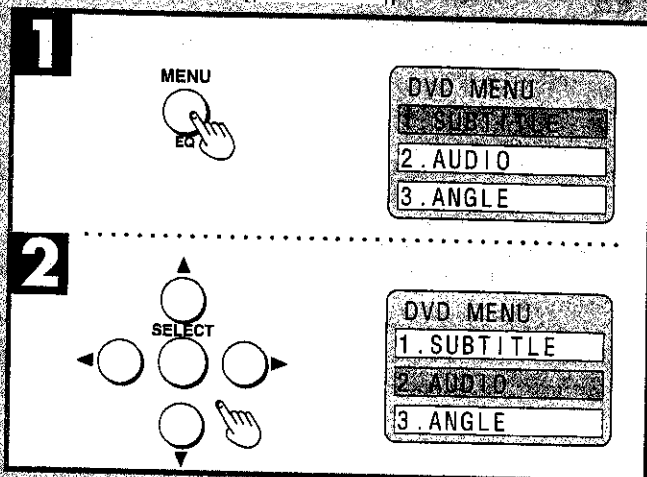
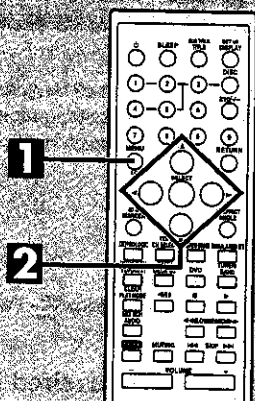
To clear the display

Press [AUDIO] or [SELECT].

For your reference

- When the preferred language is not selected even after pressing [▲] or [▼] several times, it means that language is not available on the disc.
- When the power is turned on or the disc is removed, the language heard is the one selected at the initial settings.



A**B**

Other playing methods for discs

Using a title menu

A

DVD

- Some discs with movies, for example, may be available with two or more titles. If the disc has a title menu recorded on it, the [TITLE] button can be used to select the movie title.
- The details of operation depend on the disc used.

by remote control only

1 Press [TITLE] during play.

A list of the titles on the disc is displayed.

Pressing [TITLE] again resumes play from the scene when [TITLE] was first pressed.

2 ① Press one of cursor buttons (◀, ▶, ▲, ▼) until the desired item is selected.

② Press [SELECT].

You can also select the title with the numeric button(s).

Using a DVD menu

B

DVD

Some DVDs have unique menu structures called DVD menus. For example, DVDs programmed with complex contents provide guide menus, and those recorded with various languages provide menus for audio and subtitle language. Although the DVD menu's contents and operation differ from disc to disc, the following explains basic operation when this feature is used.

by remote control only

1 Press [MENU] during play.

The DVD menu available on the disc is now displayed.

Pressing [MENU] again resumes play from the scene when [MENU] was first pressed.

2 ① Press one of cursor buttons (◀, ▶, ▲, ▼) until the desired item is selected.

② Press [SELECT].

You can also select the item with the numeric button(s).

When the menu continues onto another screen

Repeat step 2.

Other playing methods for discs

Viewing from another angle

DVD

- Some DVDs may contain scenes which have been shot simultaneously from a number of different angles. For these discs, the same scene can be viewed from each of these different angles using the [ANGLE] button. (The angles depend on the disc used.)
- This function only works when "ANGLE" is alight.

by remote control only

- Press [ANGLE] during play.
- Press [▼] or [▲] until the desired angle is selected.
Pressing the numeric button(s) also changes the angle.

To clear the display

Press [ANGLE] or [SELECT].

Continuous playback

CD

This function allows you to playback up to 5 CDs in succession or repeatedly.
This function skips any discs that require interactive operation (DVDs and Video CDs) and plays through to the final disc.

- Press [1 DISC/ALL] to select the desired method in the stop mode.

Each time the button is pressed:

ALL DISC → ALL DISC REPEAT

1-DISC (off)

ALL DISC: to playback all discs in succession

ALL DISC REPEAT: to playback all discs repeatedly

1-DISC: to playback 1 disc only on all loaded discs

- Press [▶].

Playback begins.

Alternatively you can press [DISC1]–[5] to begin playback from a specific disc.

To cancel

Press [1 DISC/ALL] to select "1-DISC" in the stop mode.

Cancel can be also accomplished by pressing [■].

What is meant by "final disc"?

For example:

If play starts from disc 4, disc 3 will be the "final disc".

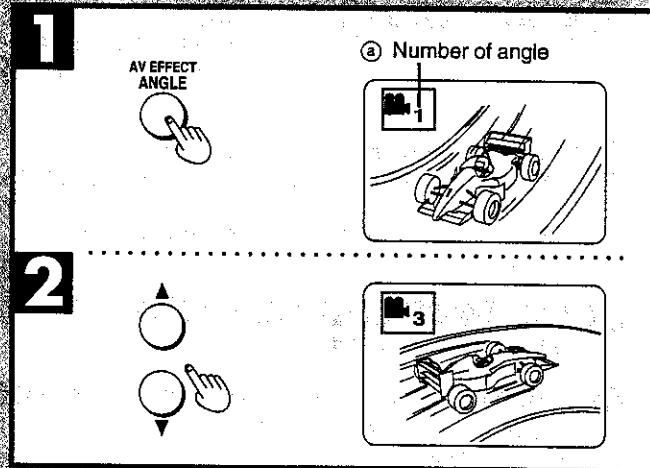
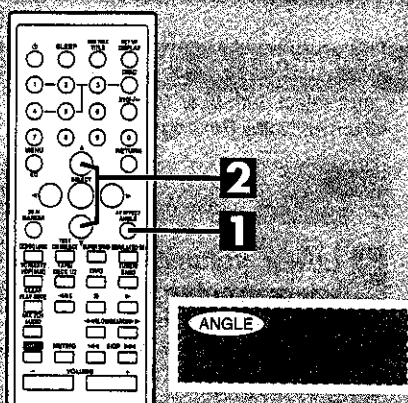
Order of progression

Disc 4 → 5 → 1 → 2 → 3

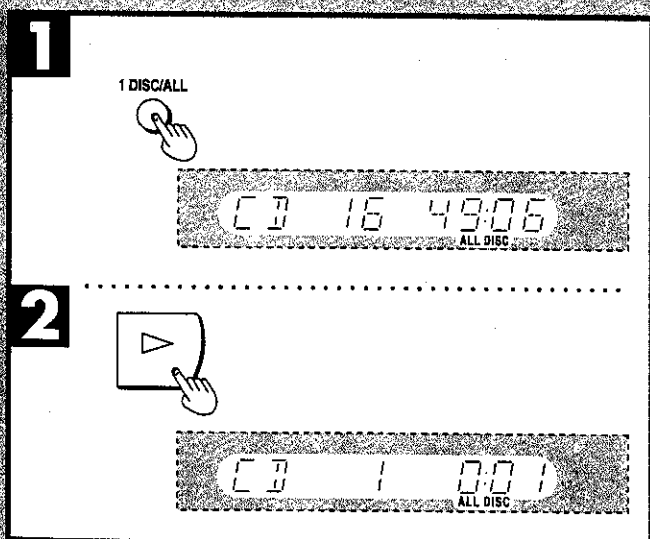
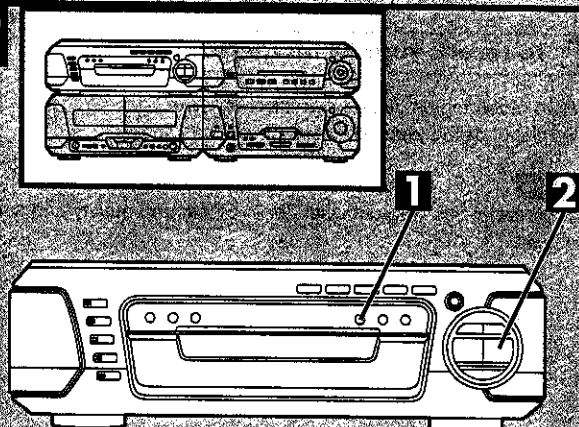
When a DVD or a Video CD is in the play position:

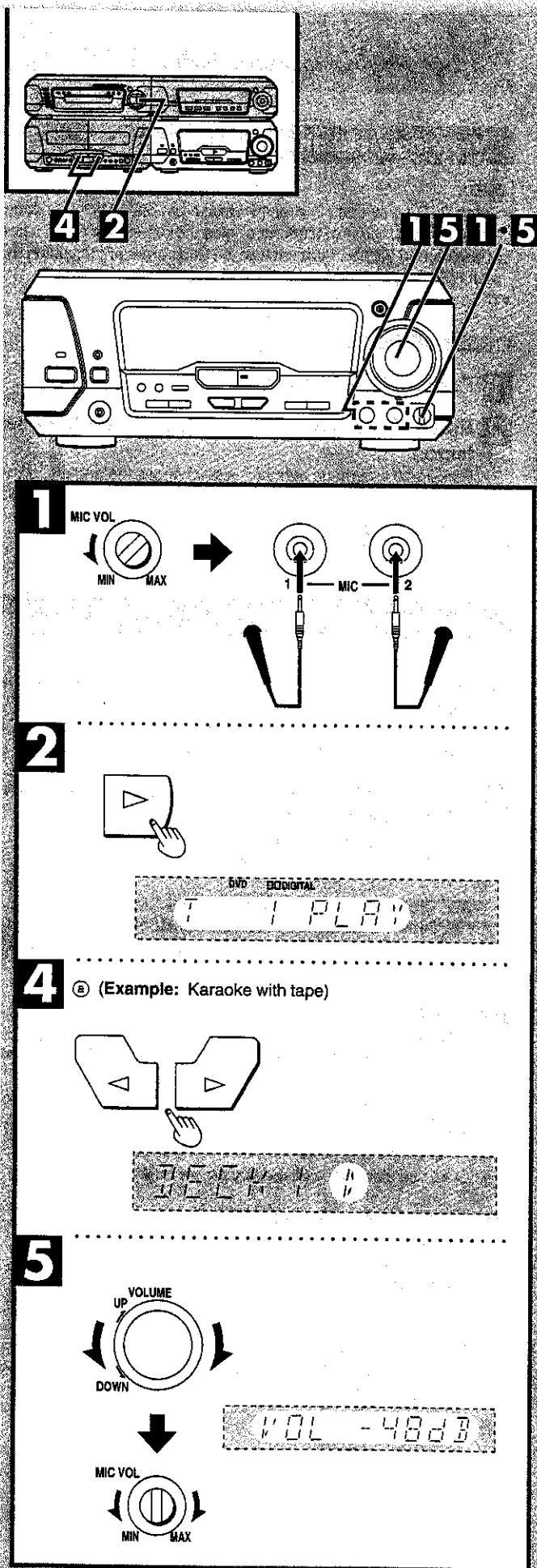
You can select "ALL DISC" or "ALL DISC REPEAT", but during play, this function is cancelled to "1-DISC" mode.

A



B





Enjoying Karaoke

Except for U.K. and Europe

Preparations:

- When you do Karaoke with DVDs and Video CDs, switch the TV on and select "Video" as the TV input.
- Turn off Dolby Pro Logic.

Note

Karaoke function cannot be done to the radio source.

1 Lower volume with [MIC VOL], then connect the microphone(s) to the MIC jack(s).

(Plug type: 6.3 mm monaural)

Use a microphone designed for Karaoke to avoid picking up noise from the TV.

2 Karaoke with DVDs and Video CDs

Press [▶] on the DVD/Video CD/CD changer.

When you use DVDs and Video CDs with PBC, start playing by the menu operation.

3 Select the desired Karaoke mode. (= page 29)

- DVD Karaoke discs (solo and duet)/Video CD (multiplex)

- Multiplex sources (CD, tape and external source) **B**
- Normal sources (DVD/Video CD/CD and tape, etc) **C**

4 Karaoke with CDs, tapes and external sources

Start playing sources.

5 ① Adjust volume with [VOLUME] and [MIC VOL].

② Sing along.

To record your Karaoke performance

Start recording on deck 2 then start Karaoke.

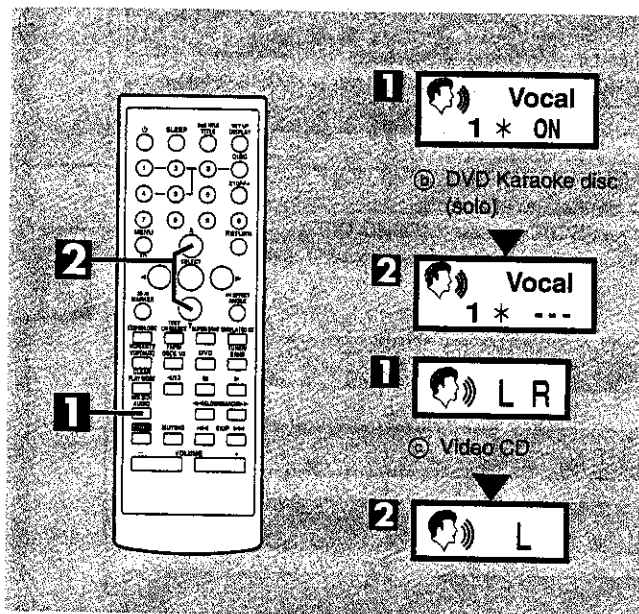
To playback the tape, keep the "FLAT" condition.

Note

You cannot use Karaoke with 3D AI EQ, sound quality and surround effects.

A DVD Karaoke discs (solo and duet)/Video CD (multiplex)

by remote control only



1 Press [AUDIO].

Audio screen appears on the TV.

You can also display the audio screen by pressing [DISPLAY] then cursor button [▶].

2 Press [▼] or [▲] to select the desired mode.

Refer to the disc jacket concerned for Karaoke.

•DVD Karaoke disc (solo)

---: off

ON: on

•DVD Karaoke disc (duet)

---: off

1+2: Vocals 1 and 2

V1: Vocal 1 only

V2: Vocal 2 only

•Video CD (multiplex)

LR (off): Left and Right channel sound from each speaker

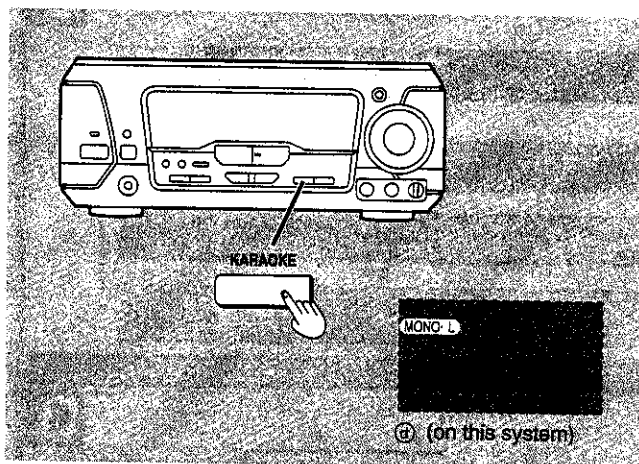
L (MONO L): Music (only Left channel sound)

R (MONO R): Vocal (only Right channel sound)

To cancel the Karaoke mode

Operate the above procedure to select "off" or previous conditions.

B Multiplex sources (CD, tape and external source)



Press [KARAOKE] to select the desired mode.

MONO L → MONO R

↑ off ↓

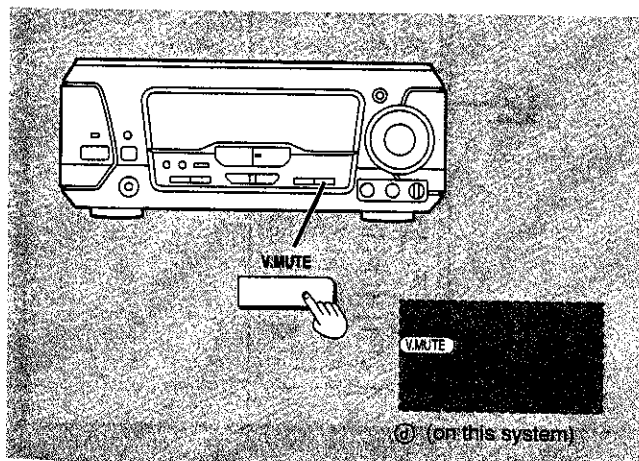
MONO L: Music (only Left channel sound)

MONO R: Vocal (only Right channel sound)

To cancel the Karaoke mode

Press [KARAOKE] to select "off".

C Normal sources (DVD/Video CD/CD and tape, etc)



Press [V.MUTE] to select the desired mode.

VOICE MUTE ↔ off

To cancel the Karaoke mode

Press [V.MUTE] to select "off".

About V.MUTE function

Depending on the type of pre-recorded songs, master vocal volume cannot be reduced.

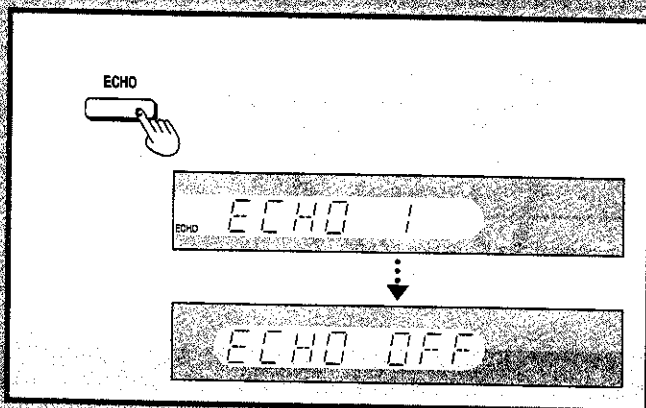
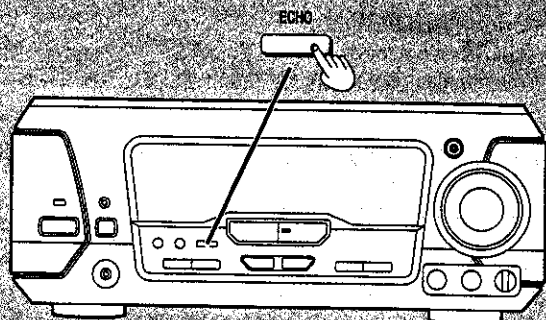
Use software recorded in stereo.

V.MUTE may not function sufficiently or noise may interfere when using the following software.

•Monaural

•With few musical instruments including classic music and poetry recitations

•With duets or strong choruses



Karaoke possibilities

Except for U.K. and Europe

Using the echo effects

You can adjust the echo levels from ECHO 1 to ECHO 3.

Press [ECHO].

Each time the button is pressed,
ECHO 1 (weak) → ECHO 2 (middle) → ECHO 3 (strong)
↑ ECHO OFF ←

To cancel the effects

Press [ECHO] to select "ECHO OFF".

Using GUI screens

This system features GUI (Graphical User Interface) screens consisting of icons showing disc information and changer information. Some icons only show the indicated information. Other icons allow the settings to be changed. You can operate this system interactively by using GUI screens.

Example of GUI screens

(Screens differ with disc contents.)

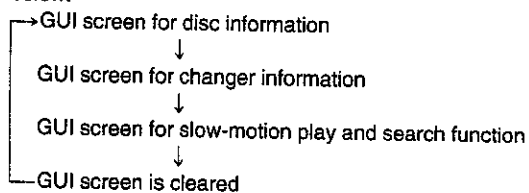
- DVD (A)
- Video CD (B)
- CD (C)

Common procedures

by remote control only

1 Press [DISPLAY] during play or in the stop mode.

Each time this button is pressed, the screen changes as shown below.



Some functions cannot be accessed in the stop mode.

2 Press [◀] or [▶] to select the desired item.

The currently selected item is indicated by the yellow frame on the GUI screen.

3 Press [▼] or [▲] to set the condition.

- When numbers are displayed (e.g. title No.), the numeric buttons are also effective for setting instead of [▼] or [▲].
- For some functions, the setting will be registered immediately; for others, [SELECT] must be pressed.

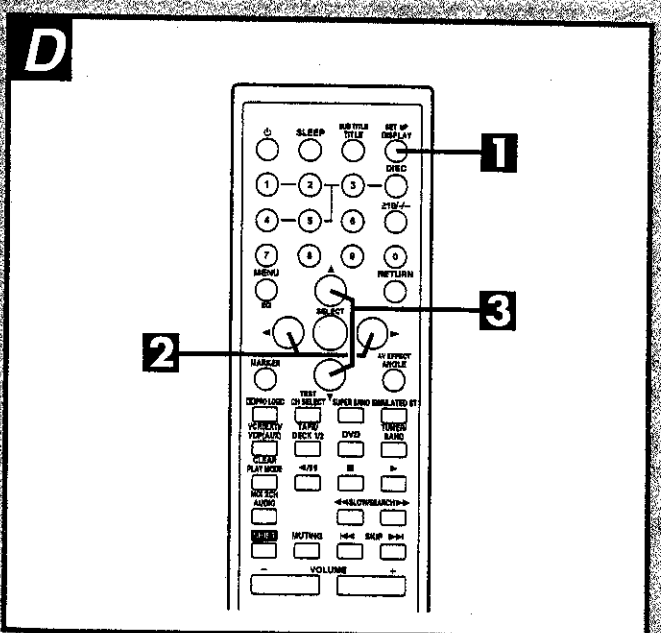
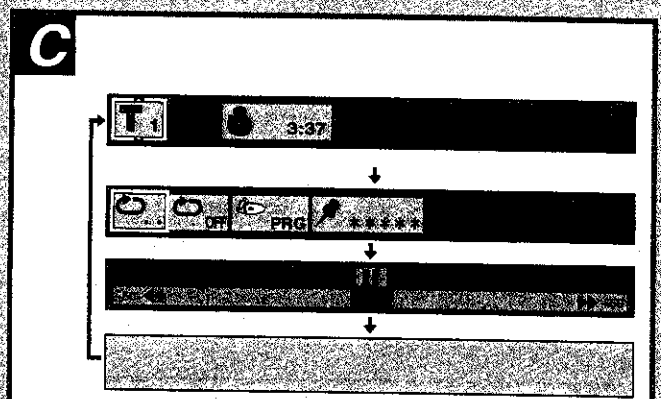
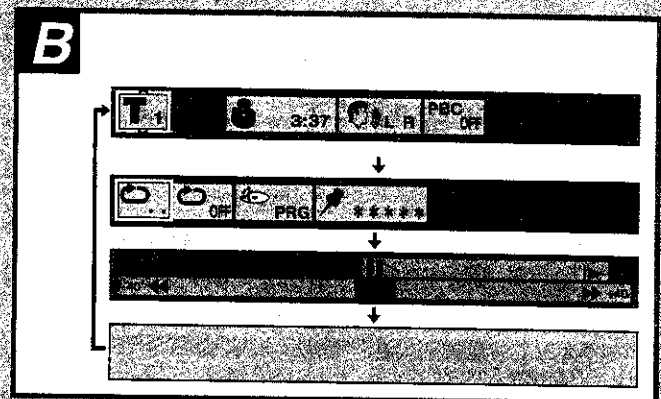
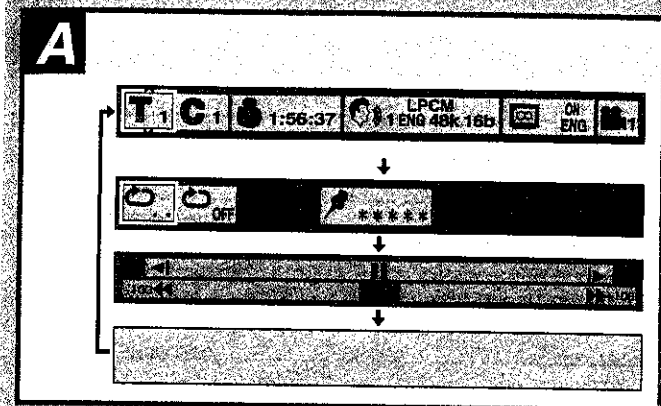
To clear the GUI screen

Press [DISPLAY], [RETURN] or [CLEAR] ([SHIFT]+[PLAY MODE]).

For your reference

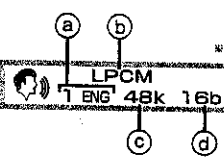
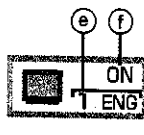
Depending on the type of DVD discs and a TV with automatic picture zoom function enabled, the GUI screen may not be displayed or only partially displayed on the TV screen.

In this case, select the appropriate TV screen type.



Detailed descriptions of each GUI icon

Screen for disc information

	Remarks	Changing method
A 	To show the current title No. (DVD) or track No. (Video CD/Audio CD)	[▼][▲] or Numeric/[SELECT] ^{*1}
B 	To show the current chapter No.	[DVD] only [▼][▲] or Numeric/[SELECT]
C 	To show the elapsed time (DVD/Video CD/CD) and to select the scene by the elapsed time (DVD only)	Numeric/[SELECT] ^{*2}
D 	a To show the current audio soundtrack language and No.	[DVD] only [▼][▲] or Numeric (⇒ page 25)
	b To show the audio attribute (type) of the current disc •LPCM (Linear PCM), MPEG (MPEG audio) or  Dolby Digital c To show the audio attribute (sampling frequency or number of channels) of the current disc •For Linear PCM disc: 48 kHz or 96 kHz •For Dolby Digital disc: 1ch to 5.1ch •For MPEG audio disc: 1ch to 2ch d To show the audio attribute (bit No.) of the current disc •For Linear PCM disc: 16 bit to 24 bit	[DVD] only —
E 	e To show the current subtitle language and No.	[DVD] only [▼][▲] or Numeric (⇒ page 25)
	i To display/clear subtitles	[DVD] only [▼][▲]
F 	To show the current angle No.	[DVD] only [▼][▲] or Numeric (⇒ page 27)
G 	To show the current audio mode or multiplex Karaoke mode •LR, L or R	[▼][▲]
H 	To show whether Video CD menu play is ON or OFF	[V-CD] only —

•[▼][▲]: press the cursor buttons on the remote control. Numeric: press the numeric buttons.

^{*1}The track number cannot be selected during menu play of the Video CD.

^{*2}This function does not work with some DVDs.

During Video CD/CD play, display is changed by the cursor buttons [▼] or [▲].

Elapsed playing time→Remaining time of track→Remaining time of the disc

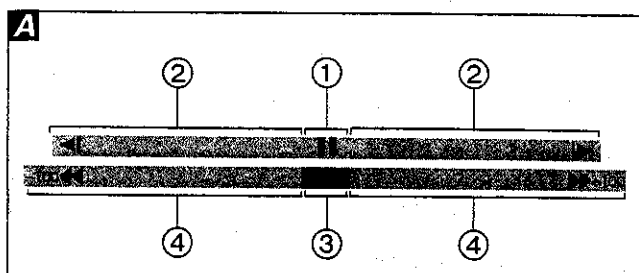
^{*3}This screen shows the current DVD Karaoke mode, too. (Except for U.K. and Europe)

Language abbreviations

For the language abbreviations used for the audio soundtrack and subtitle language icons, see the following table.

ENG	English	FRA	French	DEU	German
ITA	Italian	ESP	Spanish	NLD	Dutch
SVE	Swedish	NOR	Norwegian	DAN	Danish
POR	Portuguese	RUS	Russian	JPN	Japanese
CHI	Chinese	KOR	Korean	MAL	Malay
VIE	Vietnamese	THA	Thai	*	Others

Screen for slow-motion play and search function, etc



① Still/Pause
Press [▲] to select "II".
② Slow-motion play
1. Press [▲].
2. Press [◀] or [▶].*
◀I: Backward (DVD only)
I▶: Forward (DVD/Video CD only)
③ Play
Press [▼] or [SELECT] to select "▶".
④ Search function
Press [◀] or [▶].*
◀◀: Backward
▶▶: Forward

*Each time [◀] or [▶] is pressed, the speed increases in 5 steps.

For your reference

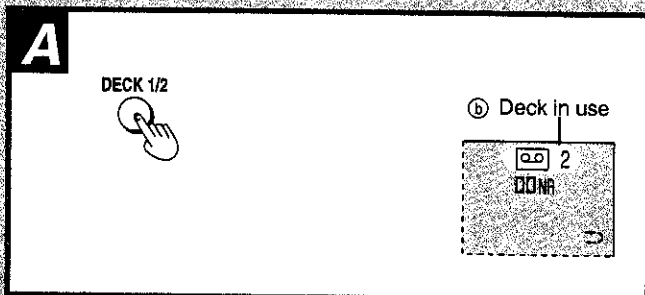
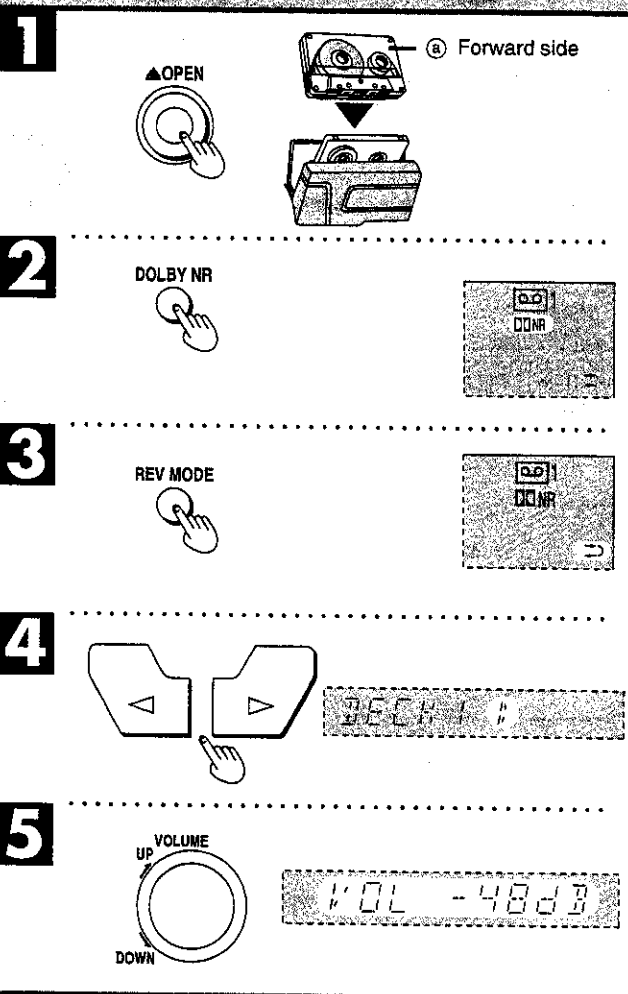
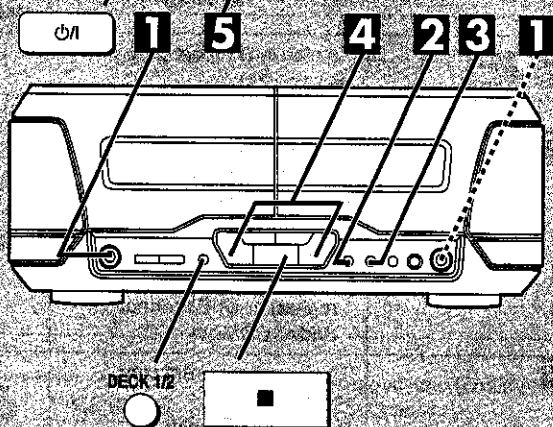
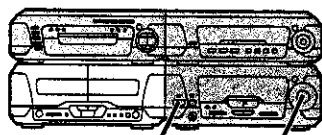
The figures appearing at the both ends of the screen stand for the maximum speeds of search.

(DVD: +100/-100, Video CD: +40/-40, CD: +50/-50)

Screen for changer information

	Remarks	Changing method
B	To start A-B repeat play (⇒ page 21)	[SELECT] ↓ [SELECT]
C	To select the repeat play mode (⇒ page 21) • C (chapter repeat), T (title repeat) or OFF (normal play) (DVD) • T (track repeat), A (disc repeat) or OFF (normal play) (Video CD/Audio CD)	[▼][▲]
D	To show the current play mode (Video CD/CD only) (⇒ pages 23 and 24) • "----" (normal play), PRG (program play) or RND (random play)	—
E	To store a marker To recall a marker To clear a marker (⇒ page 22)	[SELECT] [◀][▶]→ [▲] [◀][▶]→ [SHIFT]+ [PLAY MODE]

- [◀][▶][▼][▲]: press the cursor buttons on the remote control.
- This function does not work with interactive DVDs or during menu play of Video CDs.



Listening to tapes

Types of tapes which can be played:

The unit automatically identifies the type of tape.

Normal position/TYPE I	✓
High position/TYPE II	✓
Metal position/TYPE IV	✓

Preparation

Press [ON] to turn the unit on.

1 Press [▲ OPEN] on deck 1 or deck 2 and insert the tape.

Load a tape with the exposed side facing downward.
Close the cassette holder.

2 Press [DOLBY NR] to select Dolby NR on or off.

"DOLBY NR" appears when the Dolby NR system is on.

3 Press [REV MODE] to select the reverse mode.

Each time you press [REV MODE], one of the indicators will appear.

→: The deck plays one side only.

↔: The deck plays both sides.

↔↔: The deck plays both sides 8 times.

4 Press [◀] or [▶].

▶: The forward side will play.

◀: The reverse side will play.

5 Adjust the volume.

To stop tape playback:

Press [■].

To change the deck to be used: A

Press [DECK 1/2] to select the deck you want to play.

To listen to 2 tapes consecutively:

Load a tape into each deck and select "↔↔". Both tapes will be played 8 times each.

Listening to tapes

To reset the tape counter

1 Press [DECK1/2] to select the deck.

2 Press [COUNTER RESET].

When the tuner or DVD mode display shows, the tape counter display will appear for about 1 second.

To reset the tape counter while listening to or recording from discs or the radio

1 Press [COUNTER DISPLAY].

2 Press [COUNTER RESET] while the tape counter is being displayed (for approximately 5 seconds).

For your reference

- When the tape is travelling in the reverse direction, the tape counter will count down. After "000_" is reached, the display will switch to "999_" and then continue counting down.
- It is useful, for example, to reset the counter when recording from the middle of tapes. The number lets you know roughly where you started from.

To fast forward or rewind the tape

Press [◀◀] or [▶▶] while the tape is stopped.

Tape direction	To rewind	To fast-forward
▷	◀◀	▶▶
◁	▶▶	◀◀

For your reference

- Each deck's play direction is stored in the system's memory.
- You can fast forward or rewind the tape while you are playing or recording a tape in another deck. Press [DECK 1/2] to switch to the non playing deck, and then press [◀◀] or [▶▶].

To find the beginning of a program (TPS: tape program sensor)

Press [◀◀] or [▶▶] while the tape is playing.

If the forward side (▷) is playing:

- ▶▶: To the beginning of the next tune
- ◀◀: To the beginning of the present tune

Then the tune will play again.

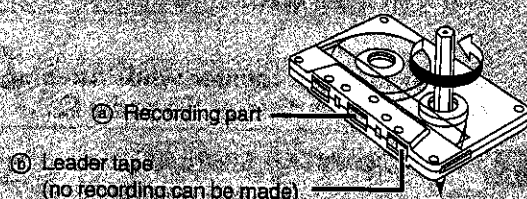
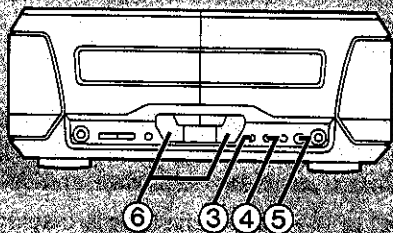
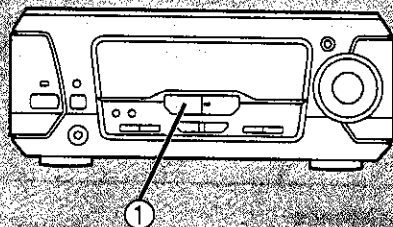
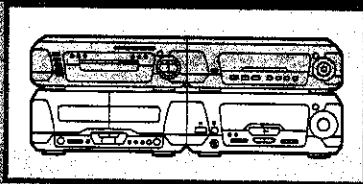
If the reverse side (◁) of the tape is playing:

The reverse operation will take place.

Note

TPS searches for silent parts of about 4 seconds normally found between tunes. As a result, it may not function properly in the following cases.

- With short silent parts
- When noise occurs between tunes
- With silent parts found between tunes

A**B****Before recording (Deck 2 only)****Types of tapes which can be recorded correctly**

The unit automatically identifies the type of tape.

Normal position/TYPE I	✓
High position/TYPE II	✓
Metal position/TYPE IV	✓

**How to advance the leader tape **

Wind the leader tape forward so that recording can start as soon as you press the button.

About the Dolby noise-reduction system

The Dolby noise-reduction system is designed to effectively reduce the annoying high-frequency "hissing" noise typical of cassette tapes. During recording, the system functions to increase the high-frequency sound level, and then, during playback, that same portion is weakened to bring it back to the previous level. This unit is equipped with the Dolby B NR-type.

Dolby B-type noise reduction:

Noise is reduced to about one-third.

Use this system when playing back tapes recorded by the Dolby-B noise-reduction system, such as prerecorded music tapes, etc.

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol  are trademarks of Dolby Laboratories Licensing Corporation.

The effect of volume, sound quality and the surround effects on recording

These have no effect on recording. Sound quality and surround effect are automatically set to flat when recording.

**To erase recorded sounds **

- ① Press [INPUT SELECTOR] on the tuner amplifier to select "TAPE".
- ② Insert the recorded tape into deck 2.
- ③ Press [DOLBY NR] so that the Dolby NR indicator is off.
- ④ Press [REV MODE] to select reverse mode.
- ⑤ Press [● REC PAUSE].
- ⑥ Press [<] or [>], whichever side you want to erase.

For your reference

During recording, sources recorded with Dolby Digital (5.1 ch) are automatically down mixed and recorded as two channels onto the cassette.

Your attention is drawn to the fact that recording pre-recorded tapes or discs or other published or broadcast material may infringe copyright laws.

Recording from radio broadcasts

Preparations:

- ① Press [⏻/⏮] to turn the unit on.
- ② The leader tape must be wound on beforehand. (⇒ page 36)
- ③ Insert the tape to be recorded on into deck 2.

1 To record in Dolby B NR:
Press [DOLBY NR] and check "□□ NR" is displayed.

2 Press [REV MODE] to select the reverse mode.
 ⇄: One side will record, then recording will stop automatically.
 ⇄, ⇄: Both sides will record (forward side→reverse side), then recording will stop automatically.

3 Tune in the desired station.
(⇒ page 15)

4 Press [● REC PAUSE] to put the deck into the recording standby mode.

The playback indicators "◀" or "▶" will start flashing.
If you select "⇄" in step 2, the direction will automatically change to "⇄" when you press [● REC PAUSE].

5 Press [◀] or [▶] to start recording.

▶: To begin recording from the forward side.
◀: To begin recording from the reverse side.

To stop recording

Press [■].

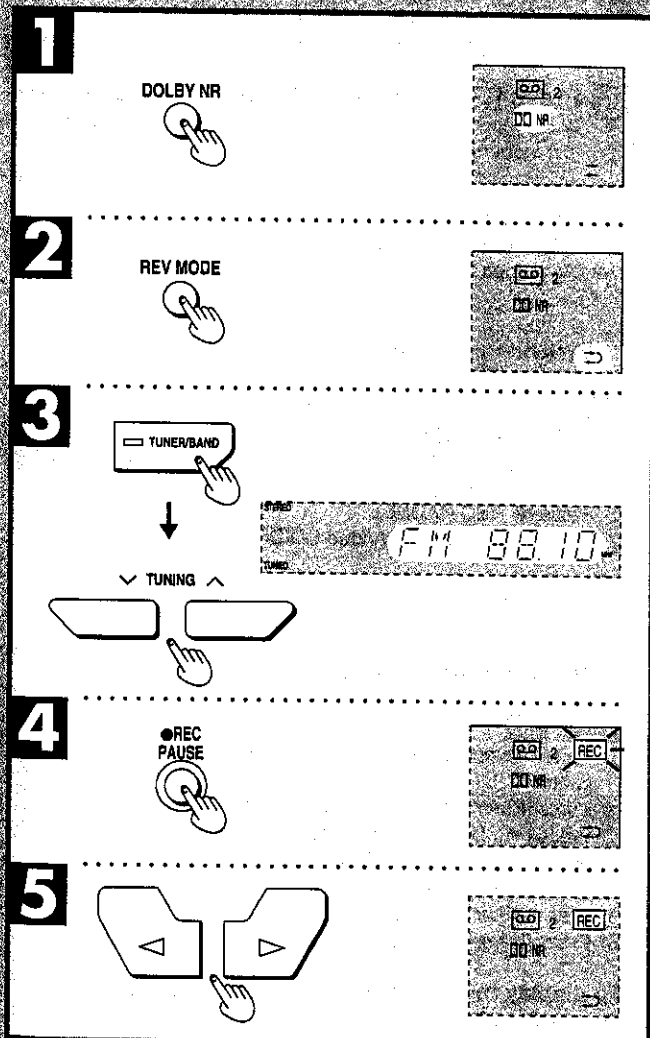
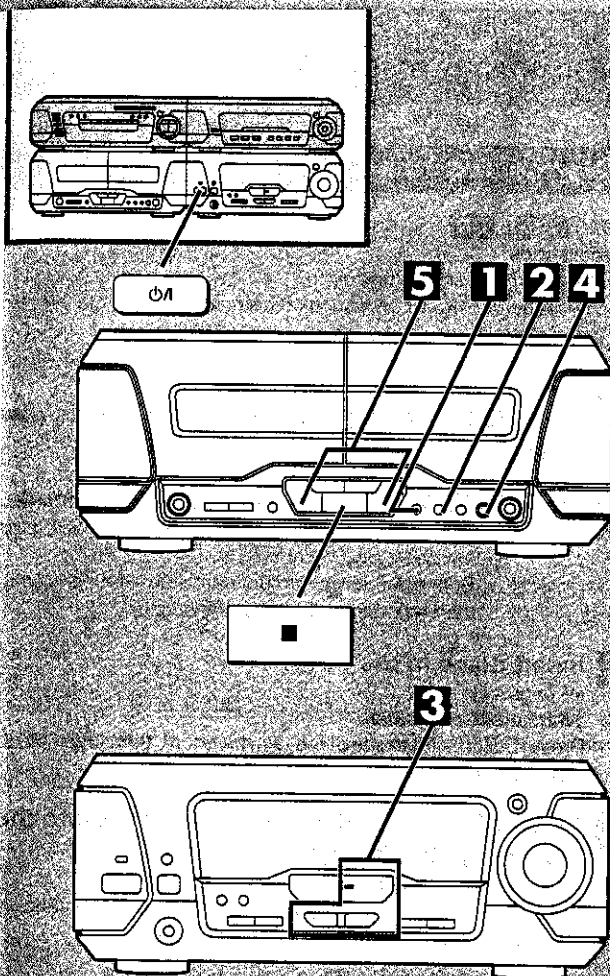
To cut an unnecessary part while recording

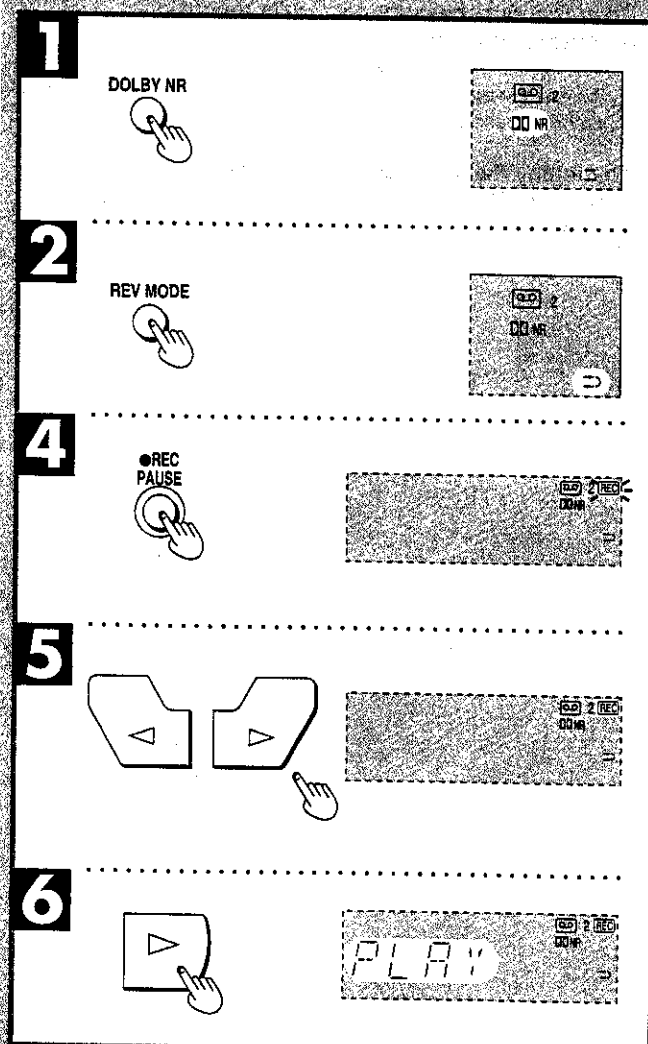
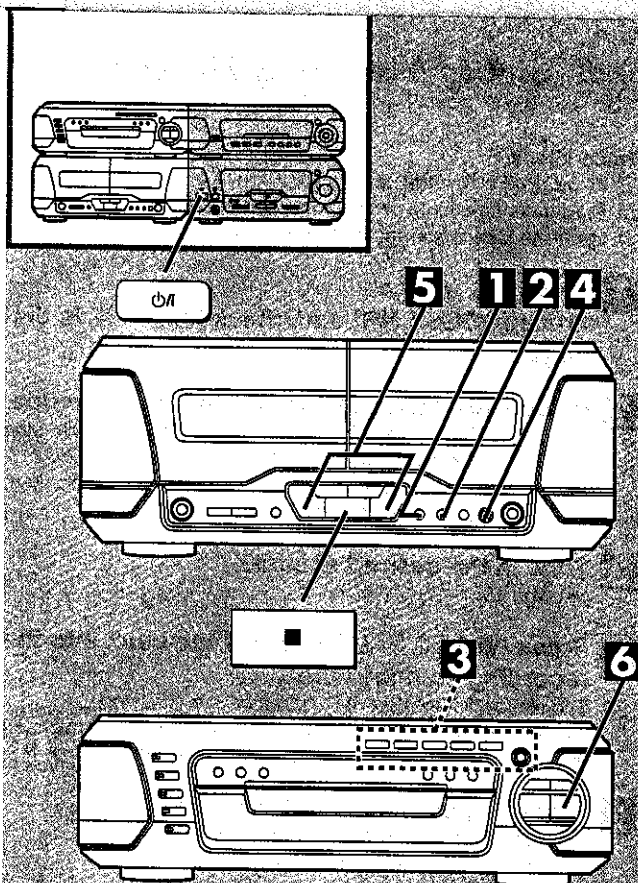
- ① Press [● REC PAUSE].
The cassette deck will go into the recording standby mode.
- ② To resume recording, press [◀] or [▶], whichever playback indicator is flashing.

To display the tape counter while recording

Press [COUNTER DISPLAY].

The tape counter will be displayed for approximately 5 seconds.





Recording from discs

Normal recording

DVD V-CD CD

Preparations:

- ① Press [ON] to turn the unit on.
- ② The leader tape must be wound on beforehand. (→ page 36)
- ③ Insert the tape to be recorded on into deck 2.

1 To record in Dolby B NR:
Press [DOLBY NR] and check "NR" is displayed.

2 Press [REV MODE] to select the reverse mode.
→: One side will record, then recording will stop automatically.
↔: Both sides will record (forward side→reverse side), then recording will stop automatically.

3 Insert discs in the trays.
(→ page 17)

When discs are loaded

Press [DISC1]–[5] to select the disc to record, then press [RECALL] to stop the disc.

4 Press [● REC PAUSE] to put the deck into the recording standby mode.

The playback indicators "<" or ">" will start flashing.
If you select "<→" in step 2, the direction will automatically change to "→" when you press [● REC PAUSE].

5 Press [<] or [>] to start recording.
→: To begin recording from the forward side.
←: To begin recording from the reverse side.

6 Press [>] on the DVD/Video CD/CD changer.
When recording from DVDs and video CDs, start playing by the menu operation.

To stop recording

Press [RECALL] on the cassette deck.
The DVD/Video CD/CD changer does not stop.

Synchro recording

CD

- ① Perform steps 1–3 above.
To change the tape direction, press [<] or [>] on the cassette deck then press [RECALL].
- ② Press [● REC PAUSE].
- ③ Press [>] on the DVD/Video CD/CD changer.

Recording begins automatically

To record programmed tracks

V-CD CD

- ① Perform steps 1–3 above, and then press [DVD] on the remote control.
- ② Press [PLAY MODE] to select "PRGM".
- ③ Press [◀], [▶], [▼], [▲] to select the track, and then [SELECT] on the remote control. (Program the desired tracks.)
- ④ Press [● REC PAUSE].
- ⑤ Press [<] or [>] to start recording.
- ⑥ Press [>] on the DVD/Video CD/CD changer.

To display the tape counter while recording

Press [COUNTER DISPLAY].
The tape counter will be displayed for approximately 5 seconds.

Recording from discs

One-touch editing

CD

This function makes it easier for you to record from audio CDs.

- When recording, if a track is cut off in the middle at the end of the forward side, it is recorded from the beginning on the reverse side.
- At the end of the reverse side recording stops and the current track will be interrupted.

Preparations:

- ① Press [P/I] to turn the unit on.
- ② The leader tape must be wound on beforehand. (→ page 36)
- ③ Insert the tape to be recorded on into deck 2.

- 1** To record in Dolby B NR:
Press [DOLBY NR] and check "DD NR" is displayed.

- 2** Press [REV MODE] to select the reverse mode.
 One side will record, then recording will stop automatically.
 Both sides will record (forward side → reverse side), then recording will stop automatically.

- 3** Set the tape direction.
To set the direction, first press [◀] or [▶] and then [■].

- 4** Insert audio CDs in the trays.
(→ page 17)
When discs are loaded
Press [DISC1]–[5] to select the disc to record, then press [■] to stop the disc.

- 5** Press [CD EDIT].
"CD EDIT" will scroll across the display from right to left.
If you select "C↔C" in step 2, the direction automatically changes to "→" when you press [CD EDIT].

To stop one-touch editing

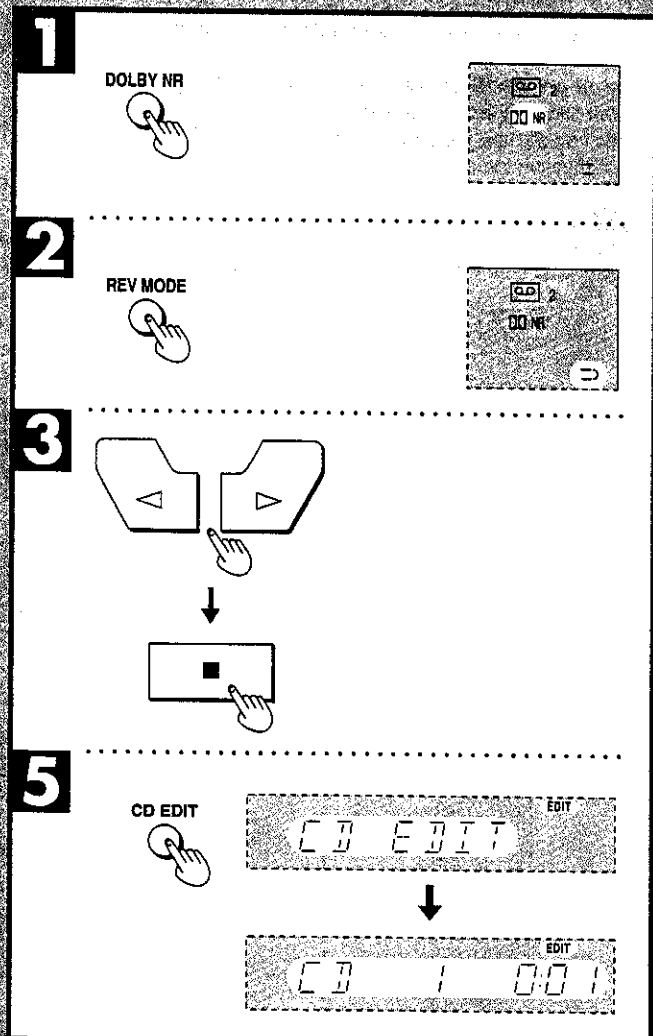
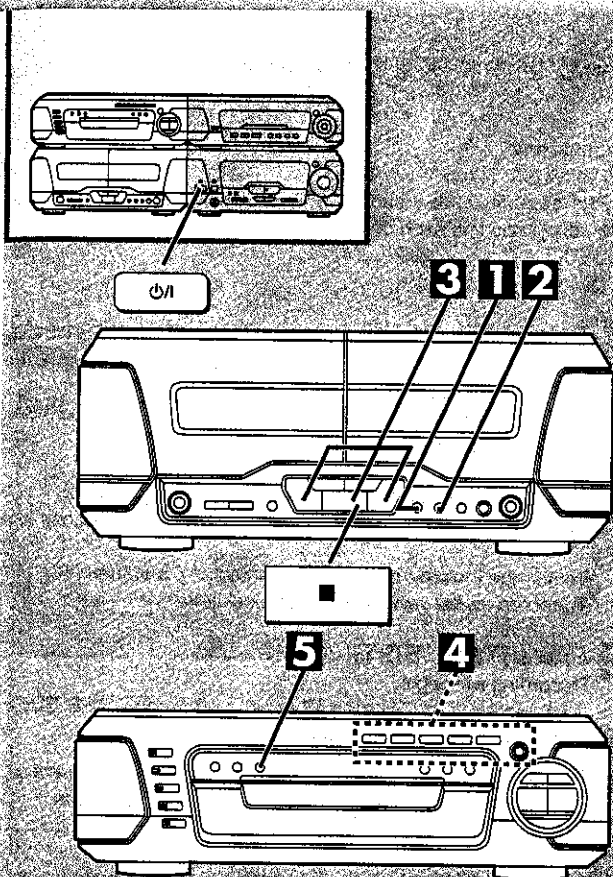
Press [■] on the cassette deck.
The DVD/Video CD/CD changer also stops.
"EDIT OUT" will scroll across the display from right to left.

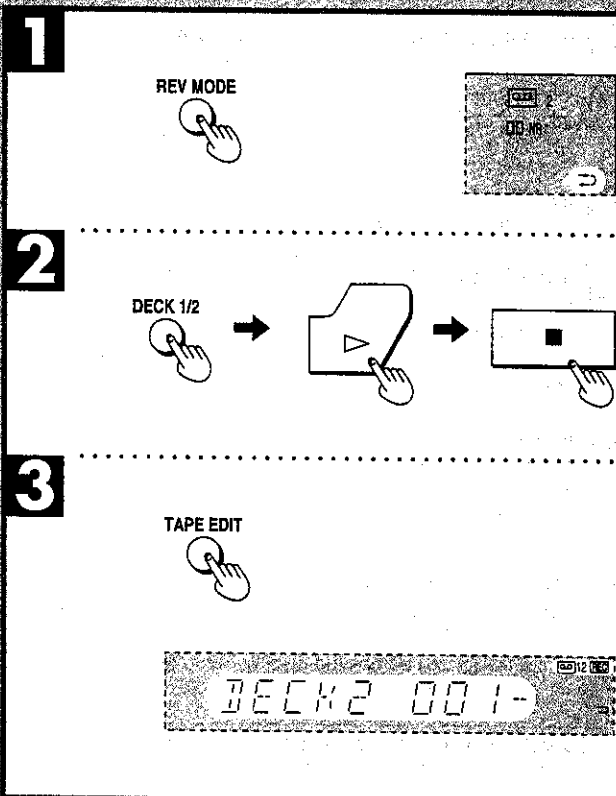
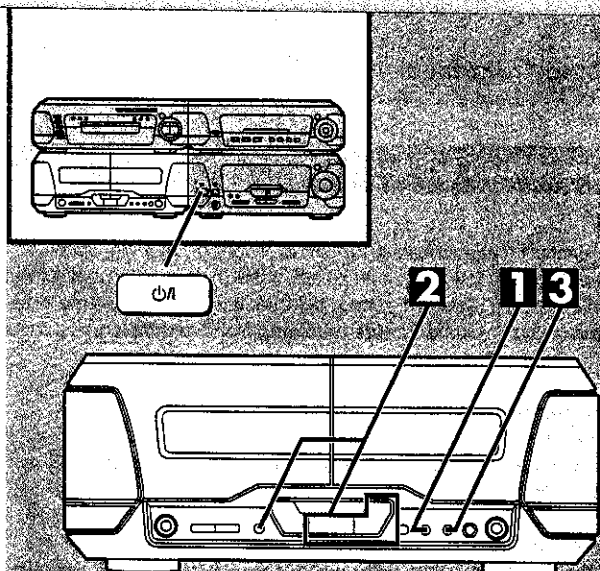
To edit-record programmed tracks

- ① Perform steps 1–4 above, and then press [DVD] on the remote control.
- ② Press [PLAY MODE] to select "PRGM".
- ③ Press [◀], [▶], [▼], [▲] to select the track, and then [SELECT] on the remote control. (Program the desired tracks.)
- ④ Press [CD EDIT].

When "ERROR" appears on the display

See if the "1 DISC/ALL" mode is set to "ALL DISC" or "ALL DISC REPEAT". CD edit only functions in the "1-DISC" mode.





Tape-to-tape recording

Preparations:

- ① Press [⏻/I] to turn the unit on.
- ② The leader must be wound on beforehand. (⇒ page 36)
- ③ Insert a tape into each deck.
DECK 1: For playback
DECK 2: For recording

1 Press [REV MODE] to select the reverse mode.

- ⇄: One side will record, then recording will stop automatically.
- ⇄ ⇄: Both sides will record (forward side → reverse side), then recording will stop automatically.

2 Set the tape direction "▷" of deck 1 and 2.

Press [DECK1/2] and confirm both deck's tape directions are "▷".

To change the tape direction, first press [▷], and then [■].

To record on the reverse side, set deck 2 to "◁".

3 Press [TAPE EDIT].

Recording will begin.

If you select "⇄" in step 1, when you press [TAPE EDIT], "⇄" automatically switches over to "⇄".

The tape direction indicator ("◁" or "▷") shows deck 2 direction. If either deck 1 or deck 2 stops, the other deck also stops.

To stop recording

Press [■].

Both decks will stop.

To display the tape counter while recording

Press [COUNTER DISPLAY].

The tape counter will be displayed for approximately 5 seconds.

To enjoy another source while recording

Start playing the other sound source.

You can change the volume, sound quality and surround effect without affecting the recording.

Note

The recording level and the noise reduction effect of the original (playback) tape will be recorded on the new tape.

Boosting the super woofer ■

Press [S.WOOFER].

The [S.WOOFER] lamp lights.

• When listening to the sound through the speakers:
MID (medium) → MAX (high) → off

• When listening to the sound through the headphones:
Light on (on) ↔ Light off (off)

To cancel

Press [S.WOOFER] to select "off".

Using the built-in sound quality/sound field settings ■

Turn [MULTI JOG] to select the sound quality or sound field.

When it is turned clockwise, the settings are selected in the following sequence.

- ① **HEAVY (sound quality)**
Select this when playing rock or other kinds of music that sound better with an added punch.
- ② **CLEAR (sound quality)**
Select this for jazz or other kinds of music for which clarity in the treble range is desired.
- ③ **HALL (sound field)**
Select this to add an expansiveness to the sound to produce the atmosphere of a great concert hall.
- ④ **AI EQ (⇒ page 43)**
- ⑤ **MANUAL (⇒ page 42)**
- ⑥ **FLAT**
The display before sound quality adjustments were started is restored after a moment.

To release the equalizer

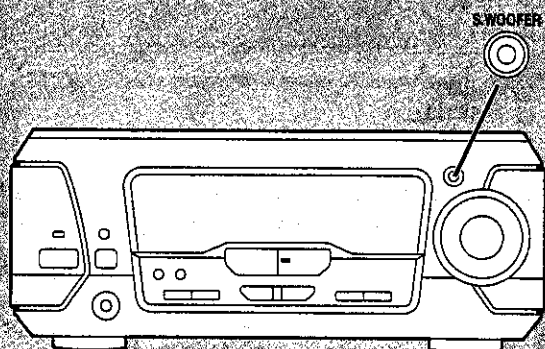
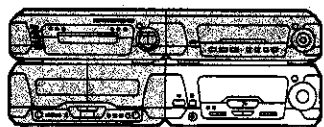
Turn [MULTI JOG] to select "FLAT".

With the remote control

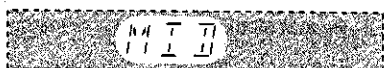
Press [EQ] ([SHIFT] + [MENU]).

Each time these buttons are pressed, the setting is changed in the sequence described above.

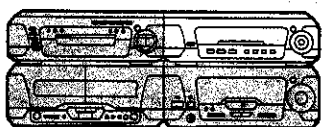
A



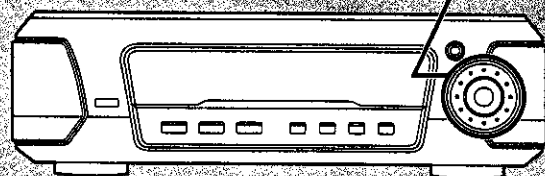
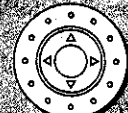
S.WOOFER



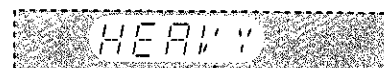
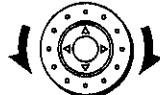
B



MULTI JOG



MULTI JOG



①



④



②



⑤

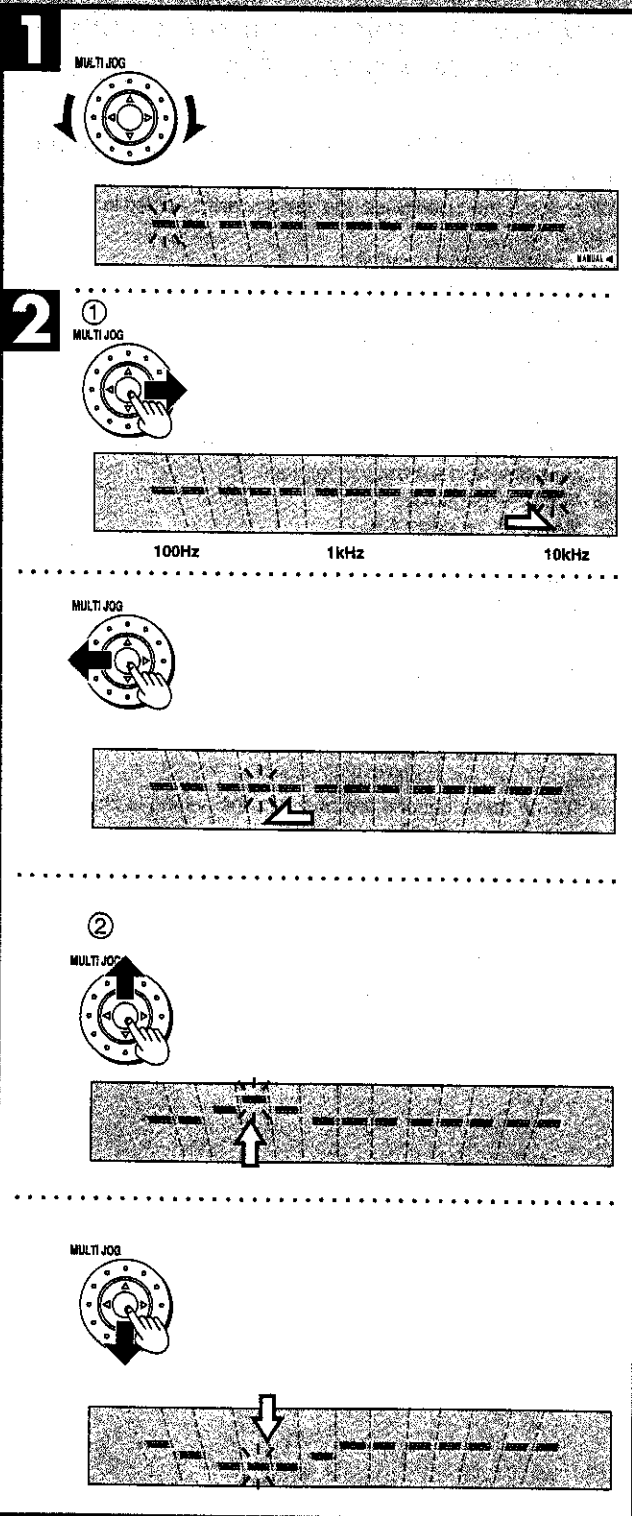
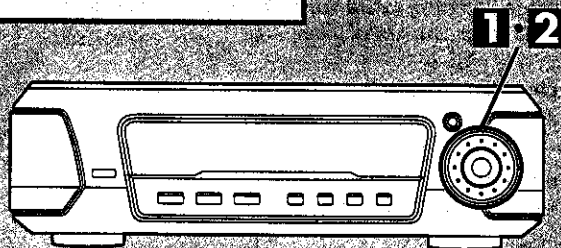
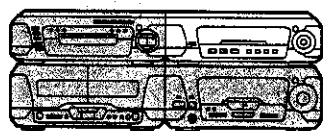


③



⑥





Varying the sound quality with the manual equalizer (Manual EQ)

1 Turn [MULTI JOG] to select "MANUAL".
When it is turned clockwise, the settings are selected in the following sequence.

- ① HEAVY
- ② CLEAR
- ③ HALL
- ④ AI EQ
- ⑤ **MANUAL**
- ⑥ FLAT

2 Operate Joystick to adjust the sound quality.

① ←→ direction: For selecting the range of the sound to be adjusted

Characteristics of each sound range

100 Hz:	Super woofer range
Around 315 Hz:	Bass to midrange
1 kHz:	Midrange
Around 3.15 kHz:	Midrange to treble
10 kHz:	Treble

② ↓ ↑ direction: For adjusting the level

Repeat steps ① and ② to set the desired sound quality.

The display before sound quality adjustments were started is restored after a moment.

To release the equalizer

Turn [MULTI JOG] to select "FLAT".

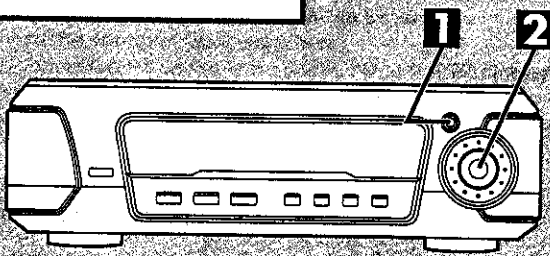
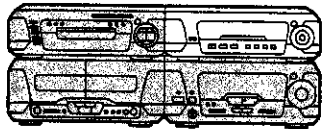
To select "MANUAL" with the remote control

Press [EQ] ([SHIFT]+[MENU]).

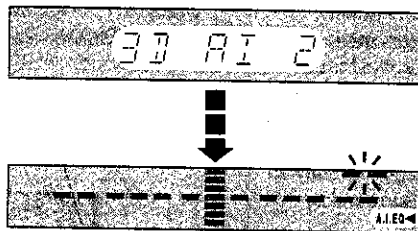
Each time these buttons are pressed, the setting is changed in the sequence described above.

Note

The sound quality setting is stored automatically. It is recalled when "MANUAL" is next selected.

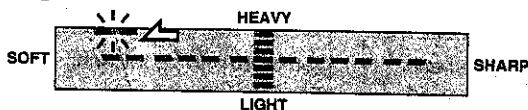
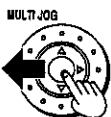


1



2

①



MULTI JOG



②

MULTI JOG



MULTI JOG



Varying the sound quality with the acoustic image (AI) equalizer (3D AI EQ)

It is possible to use the acoustic image equalizer (AI EQ) together with the surround effect to create your own sound effect. The AI EQ equalizer uses the SOFT, SHARP, HEAVY and LIGHT sound quality coordinates to achieve subtle sound quality settings with ease.

1 Press [3D AI EQ] to select the surround level.

Everytime you press the button;
AI EQ → 3D AI 1 → 3D AI 2

2 Operate Joystick to adjust the sound quality.

- ① ← → direction: SOFT-SHARP setting
- ② ↓ ↑ direction: LIGHT-HEAVY setting

Repeat steps ① and ② to set the desired sound quality.

The display before sound quality adjustments were started is restored after a moment.

To release the equalizer

Turn [MULTI JOG] to select "FLAT".

To select the surround level with the remote control

Press [3D AI] ([SHIFT]+[MARKER]).

Each time these buttons are pressed, the setting is changed in the sequence described above.

Note

- The sound quality setting is stored automatically. It is recalled when "AI EQ" is next selected.
- You cannot select "3D AI 1" or "3D AI 2" in the following cases:
 - Playing a DVD disc (except for "MIX 2 CH" mode)
 - Using karaoke and karaoke effect (except for U.K. and Europe)

Surround systems

- Select the surround mode appropriate to the source you are using. Read the following explanations to aid your selection.

Note

This system cannot correspond DTS discs.

This system doesn't have DTS decoder, so you cannot enjoy the disc encoded with DTS.

Surround system	Features	Recognizing the sound sources and software that can be used
DOLBY DIGITAL	• Dolby Digital is a discrete 5.1 channel surround system developed for cinema use. The sound signals in Dolby Digital format are compressed to 1/10 their original size, allowing an entire movie to be recorded on a single DVD. • This unit has built-in Dolby Digital circuitry so you can enjoy Dolby Digital Surround by connecting the speakers. • Connect a subwoofer (not included) to the SUBWOOFER OUT terminal on the rear panel of the sound processor to increase the effect.	Discs with the following mark are recorded in Dolby Digital: • DVD  This mode cannot be used with the radio or tapes.
DOLBY PRO LOGIC	• This system was developed to get a better sense of presence from sources encoded with Dolby Surround. • This unit has built-in Dolby Pro Logic circuitry so you can enjoy Dolby Surround by connecting the speakers. • The feeling of position has been improved by the addition of a separate center speaker channel.	Software with the following mark is recorded in Dolby Pro Logic: • Laser Disc • DVD • Video tape (VCR) • CD  This mode cannot be used with the radio or tapes.
SUPER SURROUND MOVIE mode MUSIC mode	• This mode adds surround effects to movie software that isn't recorded with the above systems. In MOVIE mode you can adjust the volume of the surround speaker. • This mode adds surround effects to normal music sources.	Any general sound source can be used. • CD • Tape • Video tape This mode cannot be used with the radio.
SIMULATED STEREO	• This mode adds stereo-like effects to monaural sound sources.	Any general sound source recorded in monaural can be used. • CD • Tape • Video tape This mode cannot be used with the radio.

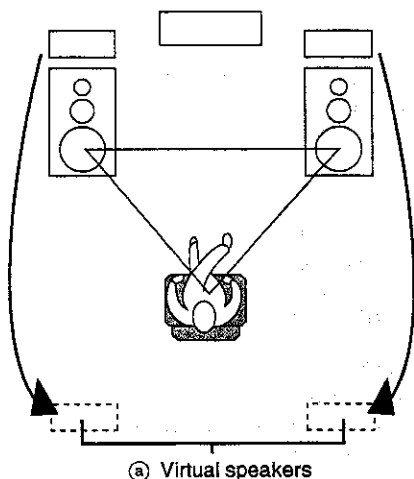
Add these audio effects to improve the experience

•Check the set-up of your speakers.

Set your speakers up to suit the surround mode you have selected to get the best surround effect.
These modes cannot be used with the radio.

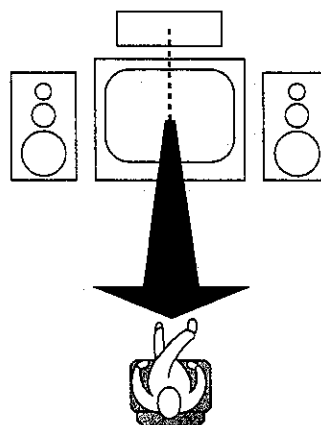
A Virtual rear surround effect

- This mode is useful if you have to place your surround speakers on the front speakers because of the room's layout.
- This mode makes it seem like the sound from the surround speakers is coming from behind you.
- It is effective when using DOLBY DIGITAL, DOLBY PRO LOGIC, or SUPER SURROUND MOVIE mode.
(The [VIRTUAL REAR SURROUND] lamp turns orange.)



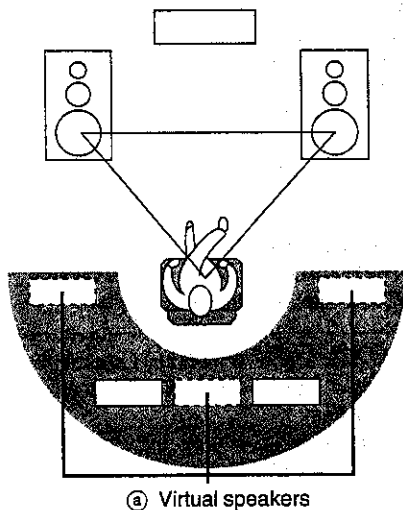
C Center focus effect

- This mode makes it seem like the sound from the center speaker channel (dialogue, etc.) is coming from within the television.
- The center speaker must be placed on top of the television.
- It is effective when using DOLBY DIGITAL or DOLBY PRO LOGIC.
(The [CENTER FOCUS] lamp turns orange.)



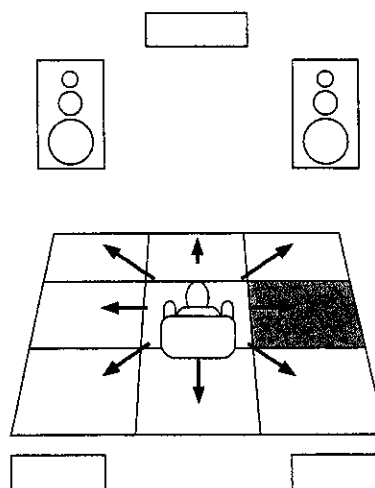
B Multi rear surround effect

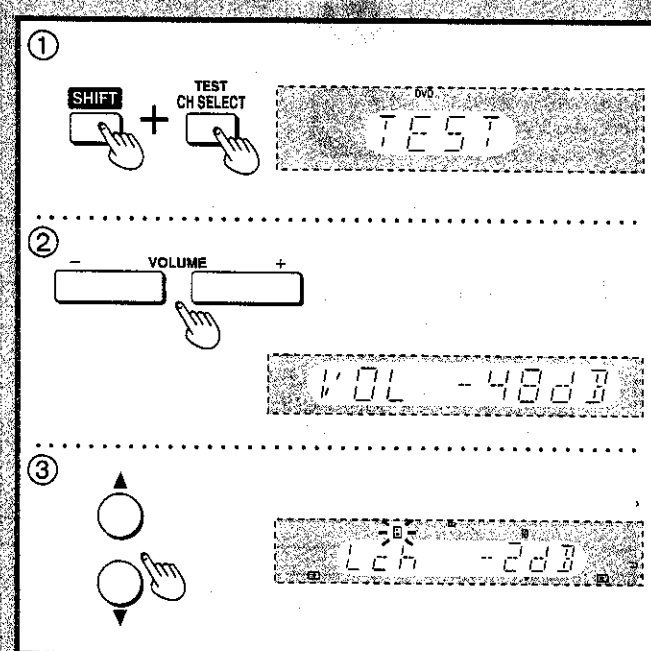
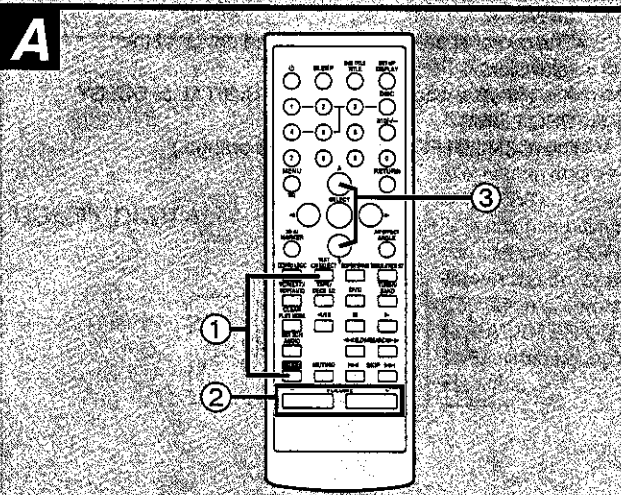
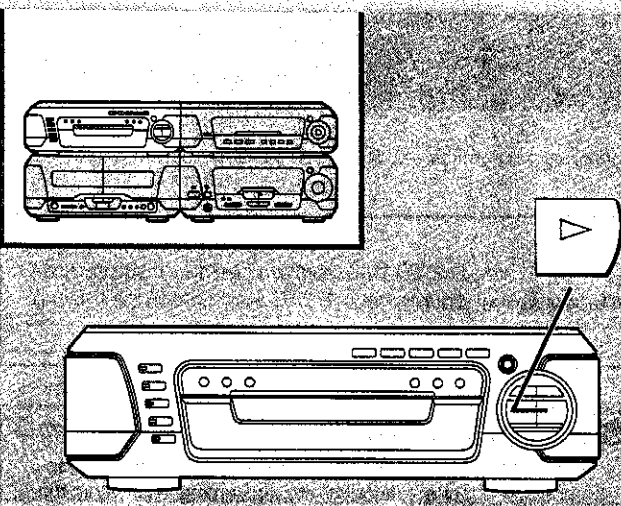
- Through processing of the surround sound signals, this mode makes it seem like there are multiple surround speakers in your room.
- This mode increases the cinema-like sense of presence.
- It is effective when using DOLBY DIGITAL, DOLBY PRO LOGIC, or SUPER SURROUND MOVIE mode.
(The [MULTI REAR SURROUND] lamp turns orange.)



D Seat position function

- This function helps maintain the sound signal position even if the listening position itself is changed.
- It is effective when using DOLBY DIGITAL, DOLBY PRO LOGIC, or SUPER SURROUND MOVIE mode.
(The [SEAT POSITION] lamp turns orange.)





Enjoying sound with DOLBY DIGITAL

- Use this mode when playing sources recorded with Dolby Digital.
- There are no special steps required to playback Dolby Digital DVDs. This system automatically switches to 5.1ch (6ch) input when a 5.1ch (6ch) DVD is played.

Preparation:

If you have connected a subwoofer (not included), press and hold [S.WOOFER] for about 2 seconds so "SUB W ON" is shown on the display.

Playback the source (DVD).

"DIGITAL" appears on the display.

To adjust the volume of each speaker **A**

by remote control only

- Sit in the normal listening position and make the adjustments with the remote control.
- Before adjusting, disconnect the headphones and microphone (if you can use). Audio effect and karaoke mode should be "FLAT" or "OFF".

Preparation: Press [DVD].

① Press [TEST] ([SHIFT]+[CH SELECT]).

A test signal is output.

The speaker outputting the test signal is displayed while the test is running.

- L: Front speaker (Left)
- C: Center speaker
- R: Front speaker (Right)
- RS: Surround speaker (Right)
- LS: Surround speaker (Left)

② Press [VOLUME (- or +)].

Set the volume to the normal listening level.

③ Press [▲] or [▼].

Adjust the output level.

- Adjust the output level of the front left and right speakers.
- Adjust the output level of the center and surround speakers so they are the same apparent level as the front speakers.

- ▲: Increases the output level
- ▼: Decreases the output level

- Repeat step ③ to adjust the level accordingly.

- To select a specific channel to make volume adjustments, press [CH SELECT]. Each time it is pressed, the display changes to show level adjustments for each speaker.

To stop the test signal

Press [TEST] ([SHIFT]+[CH SELECT]).

To adjust the volume of each speaker while enjoying the source

While enjoying the desired source:

① Press [CH SELECT] to select the speaker.

Each time the button is pressed:

L→C→R→RS→LS→SW

② Press [▼] or [▲] to adjust the output level.

References

- To down mix Dolby Digital (5.1 ch) signals to 2 channels, press [MIX 2CH] ([SHIFT]+[AUDIO]) on the remote control.
- Add audio effects to improve the surround effect.

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Enjoying a Dolby Surround source with Dolby Pro Logic

Use this mode when playing sources recorded with Dolby Surround.

- 1 Press [DOLBY PRO LOGIC, OFF/ON].
The [DOLBY PRO LOGIC] lamp lights.

- 2 Playback a Dolby Surround source.

To turn off DOLBY PRO LOGIC

Press [DOLBY PRO LOGIC, OFF/ON].
The [DOLBY PRO LOGIC] lamp goes out.

To adjust the volume of each speaker

by remote control only

- Sit in the normal listening position and make the adjustments with the remote control.
- Before adjusting, disconnect the headphones and microphone (if you can use). Audio effect and karaoke mode should be "FLAT" or "OFF".

Preparation:

Press [DOLBY PRO LOGIC, OFF/ON] to turn on DOLBY PRO LOGIC.

- 1 Press [TEST] ([SHIFT]+[CH SELECT]).

A test signal is output.

The speaker outputting the test signal is displayed while the test is running.

L: Front speaker (Left)
C: Center speaker
R: Front speaker (Right)
S: Surround speakers

- 2 Press [VOLUME (- or +)].

Set the volume to the normal listening level.

- 3 Press [▲] or [▼].

Adjust the output level.

Adjust the output level of the center and surround speakers so they are the same apparent level as the front speakers.

▲: Increases the output level
▼: Decreases the output level

- Repeat step 3 to adjust the level accordingly.

- To select a specific channel to make volume adjustments, press [CH SELECT]. Each time it is pressed, the display changes to show level adjustments for the center speaker and surround speakers.

To stop the test signal

Press [TEST] ([SHIFT]+[CH SELECT]).

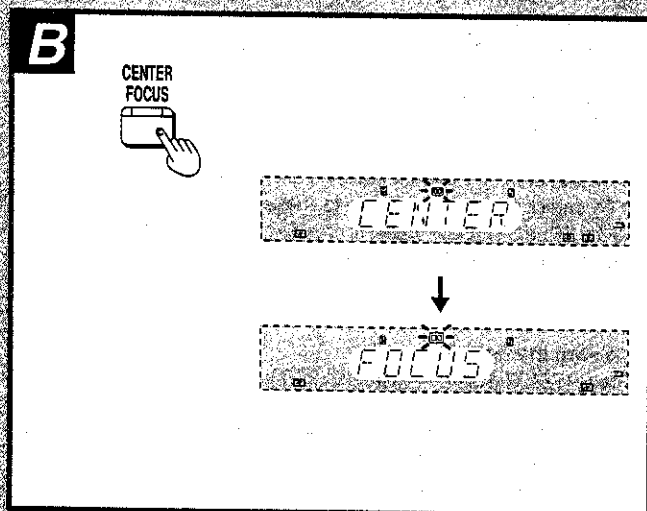
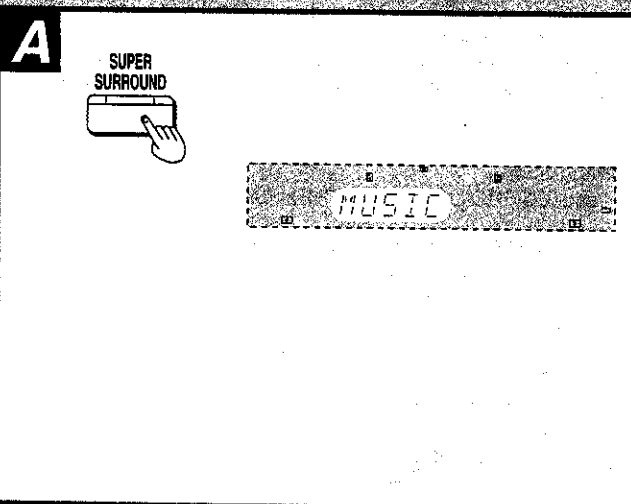
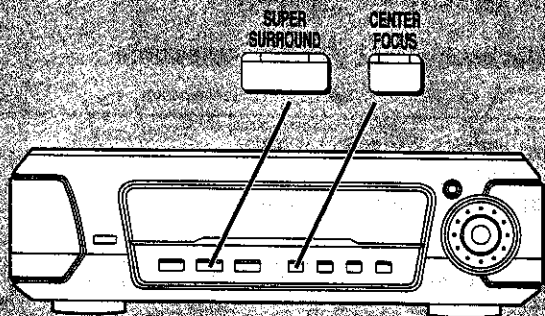
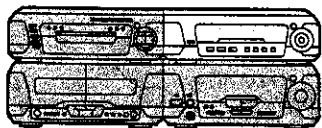
To adjust the volume of each speaker while enjoying the source

While enjoying the desired source:

- 1 Press [CH SELECT] to select the speaker.
Each time the button is pressed:
C ↔ S
- 2 Press [▼] or [▲] to adjust the output level.

Reference

Add audio effects to improve the surround effect.



Enjoying sound with stereophonics (SUPER SURROUND)

1

- This mode adds 5 channel surround effects to normal stereo sources.
- SUPER SURROUND is only effective if speakers are used. No discernable effect will be heard through headphones.

Press [SUPER SURROUND] and select MOVIE mode or MUSIC mode.

Each time the button is pressed;

MUSIC → MOVIE → off

To turn off the SUPER SURROUND mode

Press [SUPER SURROUND] to select "off".

To adjust the volume of surround speakers while enjoying the source

While enjoying the desired source:

- ① Press [CH SELECT].
- ② Press [▼] or [▲] to adjust the output level.

Reference

Add audio effects to improve the surround effect.

Using the center focus effect 2

- When the center speaker is put on the TV set, this mode makes it seem like the sound from the center speaker is coming from within the television.
- This mode can only be turned on if the [CENTER FOCUS] lamp is orange. The mode cannot be used if the lamp is off.

Press [CENTER FOCUS].

The [CENTER FOCUS] lamp turns green.

To turn off the CENTER FOCUS mode

Press [CENTER FOCUS].

With the remote control

- ① Press [AV EFFECT] ([SHIFT]+[ANGLE]).
- ② Press [◀] or [▶] so the [CENTER FOCUS] lamp flashes.
- ③ Press [▼] (off) or [▲] (on).

The [CENTER FOCUS] lamp will stop flashing in a while.

Using the virtual rear surround effect

- When the surround speakers are put on the front speakers, this mode makes it seem like the sound from the surround speakers is coming from behind you.
- This mode can only be turned on if the [VIRTUAL REAR SURROUND] lamp is orange. The mode cannot be used if the lamp is off.

Press [VIRTUAL REAR SURROUND].

The [VIRTUAL REAR SURROUND] lamp turns green.

To turn off the VIRTUAL REAR SURROUND mode

Press [VIRTUAL REAR SURROUND].

With the remote control

- ① Press [AV EFFECT] ([SHIFT]+[ANGLE]).
 - ② Press [◀] or [▶] so the [VIRTUAL REAR SURROUND] lamp flashes.
 - ③ Press [▼] (off) or [▲] (on).
- The [VIRTUAL REAR SURROUND] lamp will stop flashing in a while.

Using the multi rear surround effect

- This mode makes it seem like there are multiple surround speakers in your room.
- This mode can only be turned on if the [MULTI REAR SURROUND] lamp is orange. The mode cannot be used if the lamp is off.

Press [MULTI REAR SURROUND].

The [MULTI REAR SURROUND] lamp turns green.

To turn off the MULTI REAR SURROUND mode

Press [MULTI REAR SURROUND].

With the remote control

- ① Press [AV EFFECT] ([SHIFT]+[ANGLE]).
 - ② Press [◀] or [▶] so the [MULTI REAR SURROUND] lamp flashes.
 - ③ Press [▼] (off) or [▲] (on).
- The [MULTI REAR SURROUND] lamp will stop flashing in a while.

Enjoying sound with simulated stereo

This mode adds stereo effect to monaural sources.

Press [SIMULATED STEREO].

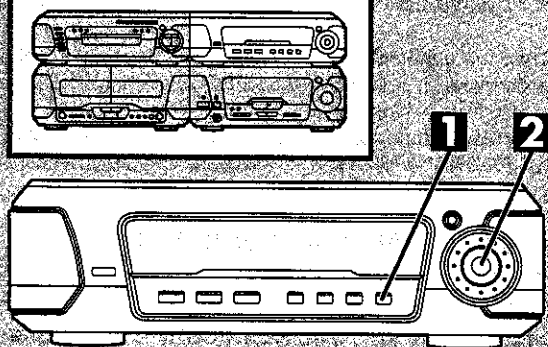
The [SIMULATED STEREO] lamp lights.

To turn off the SIMULATED STEREO mode

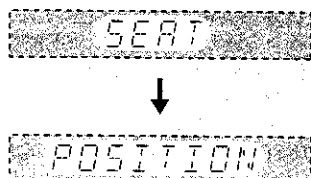
Press [SIMULATED STEREO].

The [SIMULATED STEREO] lamp goes out.

A



1



2

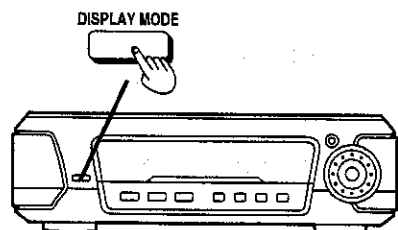
①



②



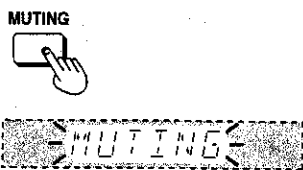
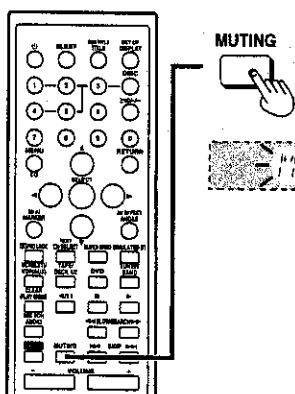
B



Example: Aurora display



C



Using the seat position function **A**

- This function lets you adjust the listening position for better effect.
- This mode can only be turned on if the [SEAT POSITION] lamp is orange. The mode cannot be used if the lamp is off.

1 Press [SEAT POSITION].

The [SEAT POSITION] lamp flashes green.

While the lamp is flashing change the seat position.

2 Within 10 seconds

Operate Joystick to adjust the seat position.

To turn off the SEAT POSITION mode

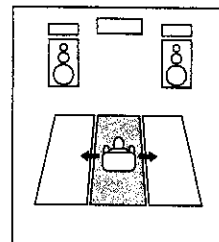
Press [SEAT POSITION] once to select the function and once again to turn it off while the lamp flashing.

With the remote control

- ① Press [AV EFFECT] ([SHIFT]+[ANGLE]).
- ② Press [◀] or [▶] so the [SEAT POSITION] lamp flashes.
- ③ Press [▲] (on).
- ④ Press [◀], [▶], [▼], or [▲] to adjust the seat position. The [SEAT POSITION] lamp will stop flashing in a while. To turn it off, after steps ① and ②, press [▼] (off).

Note

When used with virtual rear surround, seat position is changed in 3 horizontal steps.



Convenient functions

Concerning the display **B**

The sound processor shows the level of each sound range with the three types of display described below.

Press [DISPLAY MODE].

The spectrum display will change as follows.

① Normal display

This display indicates the strength of the sound in each tonal range.

② Peak-hold display

The peak sound value of each sound range is held on the display for about one second after it occurs.

③ Aurora display

The peak sound value of each sound range is displayed in inverted form.

To mute the volume **C**

This feature is convenient when you have a telephone call, etc.

by remote control only

Press [MUTING].

To cancel

Press [MUTING] once again.

"MUTING" goes out.

To cancel from the tuner amplifier, reduce the volume to the minimum position (—dB) and then reset to the desired volume.

Using the timer

Using the play timer

This timer starts play of the selected source at the selected time. The example shows settings to play between 6:00 and 7:30 at -40 dB.

Preparation:

Turn on the power, set the time (⇒ page 13), preset radio stations if you want the timer to start playing the radio (⇒ page 14).

- 1** ① Press [CLOCK/TIMER, -DEMO] to select "⊙ PLAY".

- ② Press [SET] within 3 seconds.

- 2** ("ON" time setting)

- ① Press [TUNING (∨ or ∧)] to show the time to start playing.

- ② Press [SET].

- 3** ("OFF" time setting)

- ① Press [TUNING (∨ or ∧)] to show the time to finish playing.

- ② Press [SET].

- 4** ① Press [TUNING (∨ or ∧)] to select the desired source.

The display will change as follows.

DVD ↔ TAPE ↔ TUNER

- ② Press [SET].

When you select "TUNER", select a preset channel using [TUNING (∨ or ∧)], and then press [SET].

- 5** ① Press [TUNING (∨ or ∧)] to adjust the volume level for the timer play.

- ② Press [SET].

- The display will show ON time, OFF time, the source you select, and the volume level alternately, and then reverts to the previous display.
- Please confirm "⊙ PLAY".

- 6** Press [⏻/⏷] to switch the power to standby mode.

The timer play will start at the preset time with volume increasing gradually up to the volume level you preset.

To cancel the timer

Turn the unit on and press [⊙ PLAY/⊙ REC] to turn off "⊙ PLAY".

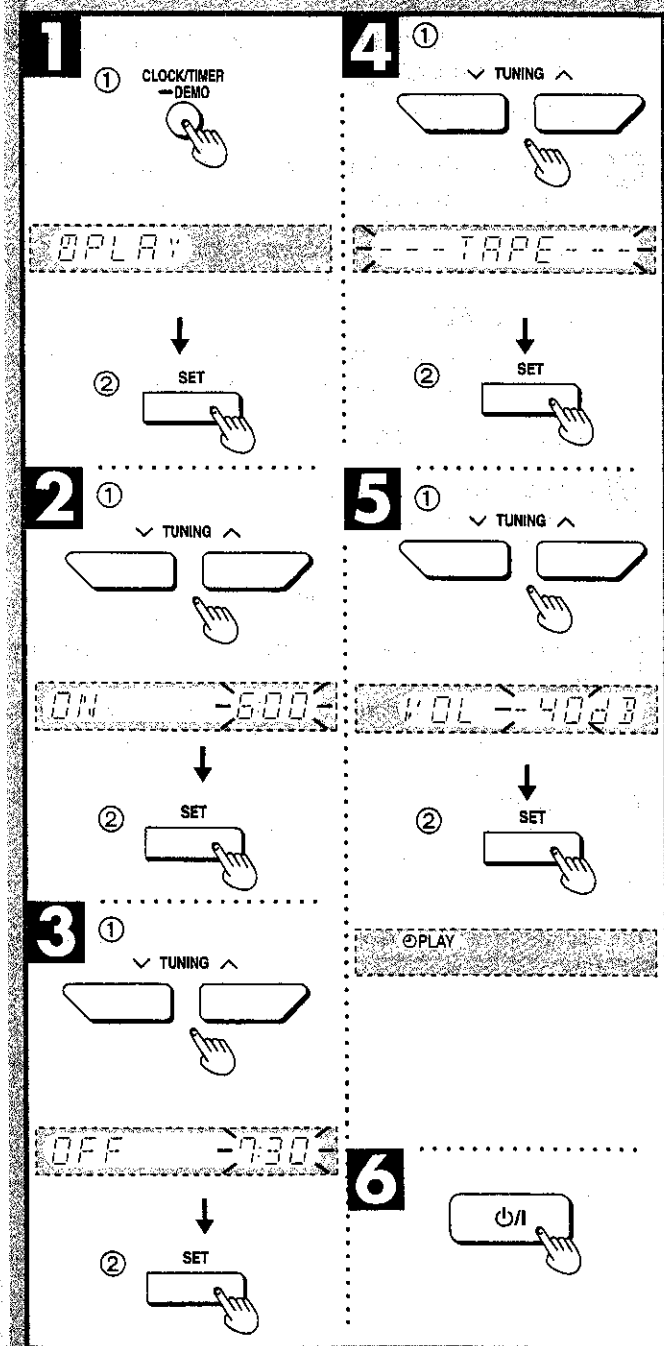
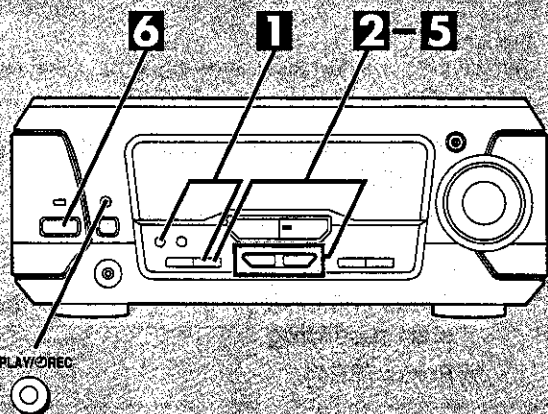
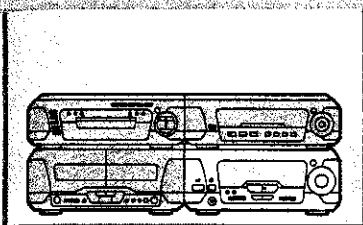
Each time you press the button,

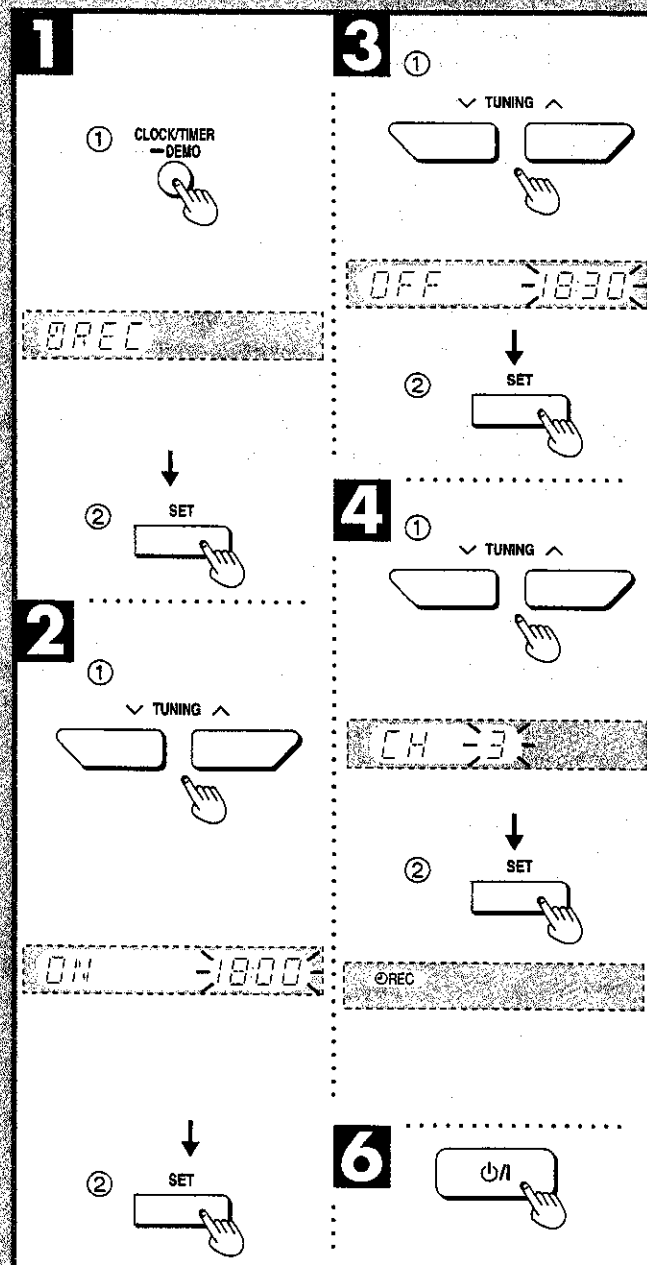
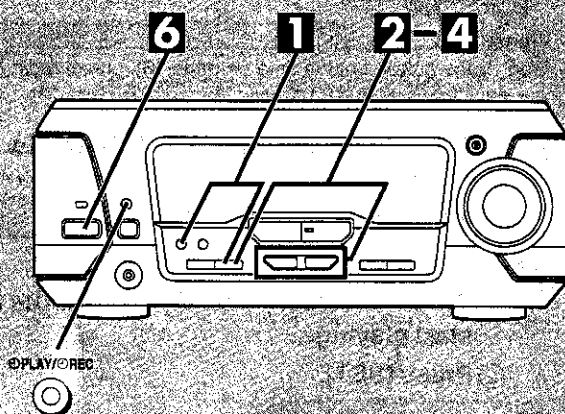
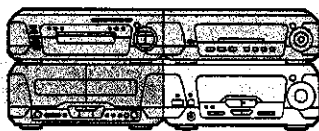
⊙ PLAY → ⊙ REC → ⊙ PLAY ⊙ REC → Light off (off)

The play timer function will be cancelled, but the settings stay in the memory.

For your reference

When you insert cassettes in decks 1 and 2, deck 1 has priority for timer play on tape.





Using the timer

Using the record timer

This timer records the radio at the set time.

The example shows settings for recording preset channel 3 from 18:00 to 18:30.

Preparation:

Turn on the power, set the time (⇒ page 13), preset radio stations (⇒ page 14).

1 ① Press [CLOCK/TIMER, -DEMO] to select "Ⓢ REC".

② Press [SET] within 3 seconds.

2 ("ON" time setting)

① Press [TUNING (∨ or ∧)] to show the time to start recording.

② Press [SET].

3 ("OFF" time setting)

① Press [TUNING (∨ or ∧)] to show the time to finish recording.

② Press [SET].

4 ① Press [TUNING (∨ or ∧)] to select the desired preset channel.

The display will change as follows.
CH1 ↔ CH2...CH38 ↔ CH39

② Press [SET].

• The display will show ON time, OFF time, the broadcast station you select alternately, and then resumes the previous display.

• Please confirm "Ⓢ REC".

5 Prepare for recording.

- ① Insert a tape into deck 2.
- ② Select the Dolby NR mode.
- ③ Select the reverse mode.
- ④ Select the tape travel direction.

6 Press [Ⓢ/I] to switch the power to standby mode.

The timer recording will start 30 seconds before the preset time. The sound will be automatically muted during timer recording.

To cancel the timer

Turn the unit on and press [Ⓢ PLAY/Ⓢ REC] to turn off "Ⓢ REC".

Each time you press the button,

Ⓢ PLAY → Ⓢ REC → Ⓢ PLAY Ⓢ REC → Light off (off)

The record timer function will be cancelled, but the settings stay in the memory.

Using the timer

Using play/record timer

Repeat the procedure from step 1 on page 51 or 52.

Checking the timers
Press [CLOCK/TIMER, -DEMO] to select "⌚ PLAY" (or "⌚ REC").

Play timer:

Start time → Finish time → Source → Volume

Record timer:

Start time→Finish time→Station selected

You can check the settings even when the system is OFF.

You can enjoy the desired source after the timer setting is completed. The volume level and music source are stored in the timer memory and the timer will start in these preset conditions.

Note

- If the power is on, the timer will not function. The system must be in the standby mode.
- This system retains the ON/OFF time settings until you make a new setting. If you make a new ON time setting, you must make a new OFF time setting.
- The play and record timers function as set until you cancel them. The timers (either one or both) are set when the [⏮ PLAY/⏭ REC] lamp is on.

- If the power is on, the timer will not function. The system must be in the standby mode.
- This system retains the ON/OFF time settings until you make a new setting. If you make a new ON time setting, you must make a new OFF time setting.
- The play and record timers function as set until you cancel them. The timers (either one or both) are set when the [⏻] LAMP/⏻ REC] lamp is on.

Using the sleep timer

by remote control only

The system will go into power standby mode at the set time (max. 2 hours, half hour intervals), so you can go to sleep listening to music. The example shows how to set the system to standby mode after 30 minutes.

Press [SLEEP].

Press [SLEEP].

The display will change as follows:

SLEEP 30→SLEEP 60→SLEEP 90

SLEEP OFF ←———— SLEEP120

Press [SLEEP] to select "SLEEP OFF".

Press [SLEEP] to select "SLEEP OFF".

(While sleep timer is functioning)

(While sleep timer is functioning)

Press [SLEEP].

The remaining time will be displayed for 5 seconds.

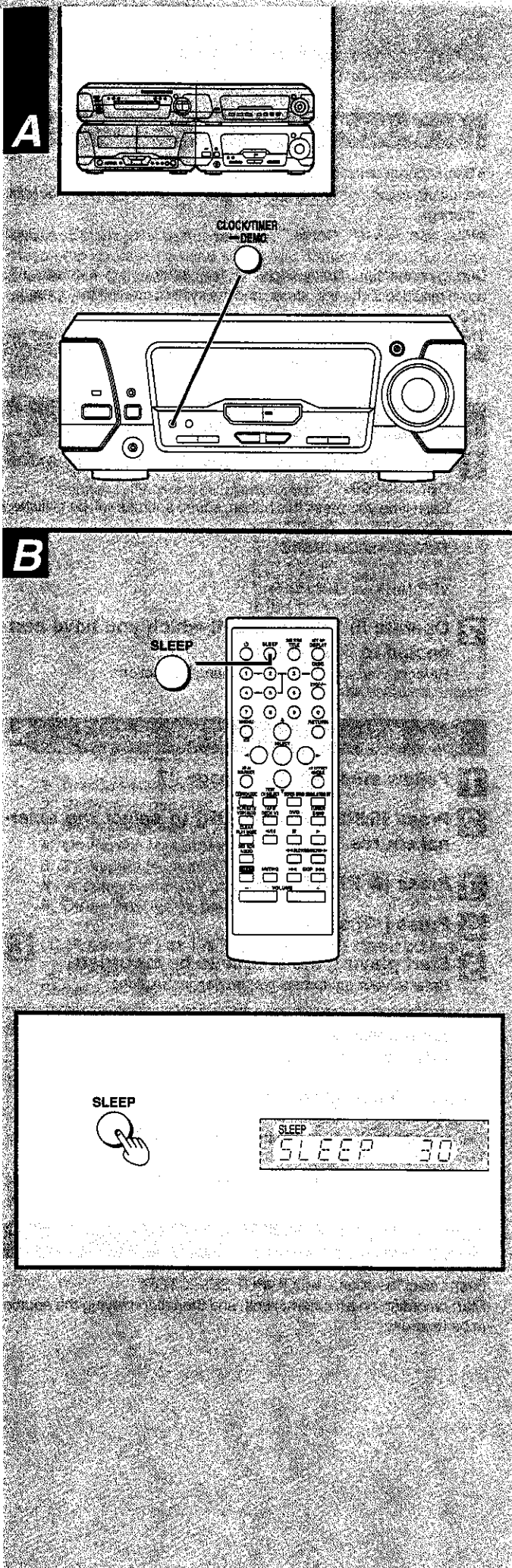
(while sleep timer is functioning)

(while sleep timer is functioning)

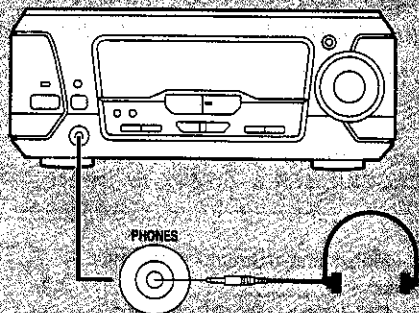
- ① Press [SLEEP].
The remaining time will be displayed for 5 seconds.
- ② Press [SLEEP] again to select the desired sleep timer.

Using three timers together

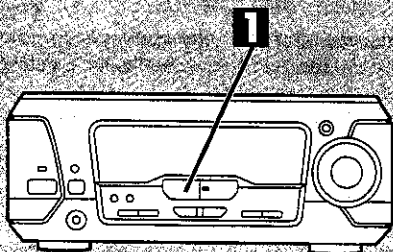
You can use the sleep timer, play timer, and record timer together. Be aware that the sleep timer always has precedence. Ensure the times do not overlap.



A



B

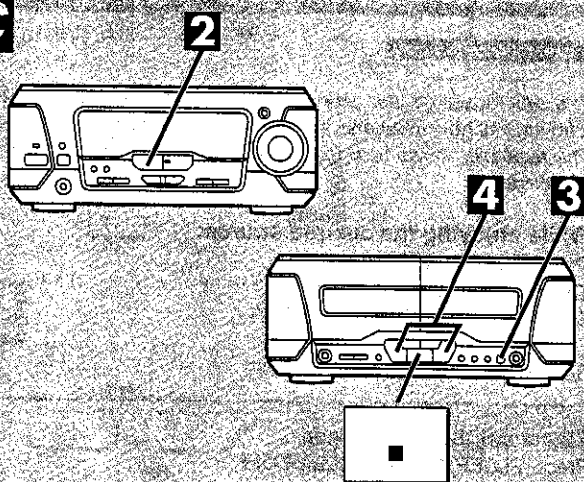


1



VCR (EXT)

C



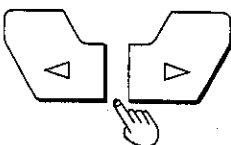
2



3



4



Using an external unit

To use headphones

- Before connecting, reduce the volume level.
- Avoid listening for prolonged periods of time to prevent hearing damage.
- Plug type: 3.5 mm stereo

During connection, Dolby Digital (5.1ch) sources are automatically down mixed to 2 channel stereo and the system prohibit the operation of Dolby surround system.

This unit resumes the previous condition when the headphones are disconnected.

Listening to an external source

- 1 Press [INPUT SELECTOR] to select the external source.**

Each time you press this button, sound sources will be switched as follows.

TUNER → DVD → TAPE
↑ ↓
VDP (AUX) ← VCR (EXT)

- 2 Operate the external unit which you have connected to the system.**

Refer to your equipment's operating instructions.

Recording from an external source

- 1 Follow steps 1-2 on page 37.**
- 2 Press [INPUT SELECTOR] to select the external source.**
- 3 Press [● REC PAUSE].**
- 4 Press [◀] or [▶].**
- 5 Start playing the source to be recorded.**

Refer to your equipment's operating instructions.

To stop recording

Press [■] on the cassette deck.

To briefly interrupt recording

Press [● REC PAUSE].

The cassette deck will go into the recording standby state.

To resume recording

Press [◀] or [▶] corresponding to the direction.

Recording on an external unit

First, select the source with [INPUT SELECTOR].

Start recording on an external unit, and then start playing the source to be recorded.

Initial settings for DVD/Video CD/CD changer

Once the initial settings have been completed, the system can always be operated under the same conditions (especially with DVD discs).

The setting screens are slightly different for each area.

Before changing the initial settings

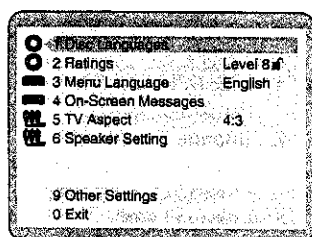
These settings must be done with a disc loaded. If "NO PLAY" appears on this system's display, remove the DVD and insert a CD or video CD.

Common initial settings

by remote control only

- 1 Press [SET UP] ([SHIFT]+[DISPLAY]) in the stop mode.

The initial settings screen is displayed.



- 2 ① Press [▼] or [▲] to select the desired item.
② Press [SELECT].

- 1 Disc Languages (⇒ page 55)
- 2 Ratings (⇒ page 56)
- 3 Menu Language (⇒ page 56)
- 4 On-Screen Messages (⇒ page 57)
- 5 TV Aspect (⇒ page 57)
- 6 Speaker Setting (⇒ page 58)
- 9 Other Settings (⇒ page 58)

- 3 ① Press [▼] or [▲] to select the desired value.
② Press [SELECT].

Some items require additional steps.

Setting is finished and the initial settings screen is displayed.

To clear the initial setting screen

Press [▼] or [▲] to select "0 Exit" and press [SELECT]. Pressing [SET UP] ([SHIFT]+[DISPLAY]) or [RETURN] also clears the screen.

For your reference

The numeric buttons can also be used for selecting items or values instead of the cursor buttons; in this case, pressing [SELECT] is not necessary.

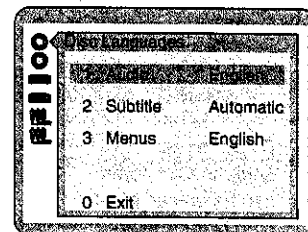
Selecting disc languages

DVD

This is to select the audio soundtrack language, subtitle language and the language used in title menus or DVD menus which will always be used for every disc to be played back.

by remote control only

- 1 At the initial settings screen (⇒ page 55)
 - ① Press [▼] or [▲] to select "1 Disc Languages".
 - ② Press [SELECT].



- 2 ① Press [▼] or [▲] to select the desired item.
② Press [SELECT].

• "1 Audio"

English: English (Factory setting)
 French/Spanish: Each language
 Original: The original language of each disc
 Other ****: Another language can be selected. (⇒ page 62)

• "2 Subtitle"

Automatic: Subtitle is automatically set to the "Audio" setting. (Factory setting)
 • If the language selected for "Audio" is used during playback, the subtitles will not appear.
 • If another language is used during playback, the subtitles will appear in the language selected at the setup "Audio".

English/French/Spanish:

Each language
 Other ****: Another language can be selected.

• "3 Menus"

English: English (Factory setting)
 French/Spanish: Each language
 Other ****: Another language can be selected.

- 3 ① Press [▼] or [▲] to select the desired language.

Input a code number by numeric buttons when you selected "Other ****".

- ② Press [SELECT].

The screen in step 1 is displayed. Select "0 Exit" by cursor buttons and press [SELECT] to return to the initial settings screen.

Note

If the language selected is not available on the disc, the language designated by each disc will be selected.

Selecting rating level

DVD

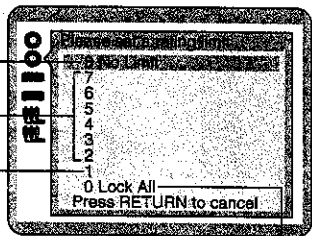
This is to disable the playing of specified DVDs which are unsuitable for children.

- Some DVDs are encoded with specific rating level. If the rating level of the disc is higher than that preset in the setup operation, playback of the disc will be prohibited.

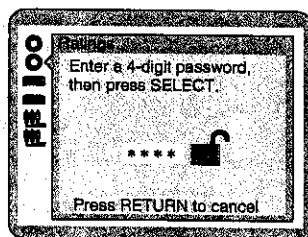
by remote control only

1 At the initial settings screen (⇒ page 55)

- Press [▼] or [▲] to select "2 Ratings".
- Press [SELECT].

- Ⓐ All DVDs can be played back. (Factory setting)
- Ⓑ DVDs for general audiences/children can be played back. (DVDs for adults are prohibited.)
- Ⓒ DVDs for children can be played back. (DVDs for adults/general audiences are prohibited.)
- Ⓓ Playback of all DVDs is prohibited.
- 

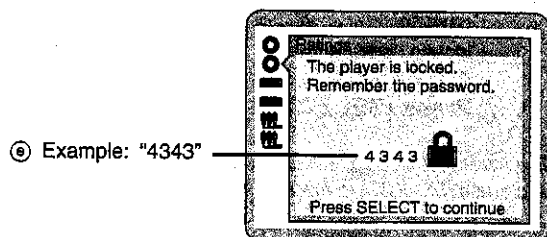
2 ① Press [▼] or [▲] to select the desired level. ② Press [SELECT].



3 When level 7 or lower is selected

- Input a 4-digit number (password) by numeric buttons.
- Press [SELECT].

The lock symbol appears closed to show the rating is locked.



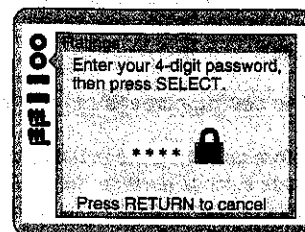
4 Press [SELECT].

Setting is finished and the initial settings screen is displayed.

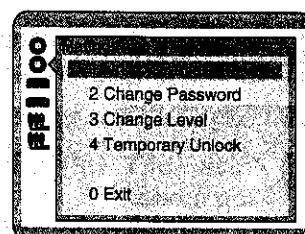
The rating is locked. Any discs whose rating is higher than the setting cannot be played back unless the correct password is entered.

To change the settings

- Select "2" with the cursor buttons at the initial settings screen and press [SELECT].



- Input 4-digit password and press [SELECT].



- Select the preferred item with the cursor buttons and press [SELECT].

- 1 **Unlock Player**
Press [SELECT].
- 2 **Change Password**
Enter a new 4-digit password and press [SELECT].
Press [SELECT] again.
- 3 **Change Level**
Select a level and press [SELECT].
- 4 **Temporary Unlock**
Select to temporarily unlock the player to view the DVD in the play position immediately after changing the ratings. Select before exiting the menu.
Press [SELECT].
5. Select "0 Exit" and press [SELECT] to exit.

Selecting menu language

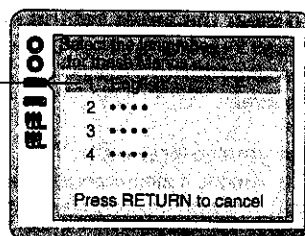
by remote control only

The language of the On-Screen message is changed.

1 At the initial settings screen (⇒ page 55)

- Press [▼] or [▲] to select "3 Menu Language".
- Press [SELECT].

Ⓘ Factory setting



- ① Press [▼] or [▲] to select the desired language.
- ② Press [SELECT].

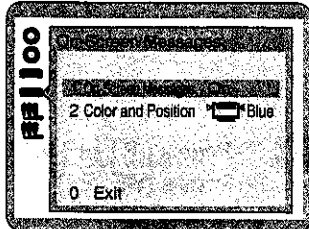
Setting is finished and the initial settings screen is displayed.

Setting the On-Screen Messages E

You can select whether On-Screen Display messages such as "Play" and "Still" will be displayed or not.

by remote control only

- 1** At the initial settings screen (→ page 55)
 - ① Press [▼] or [▲] to select "4 On-Screen Messages".
 - ② Press [SELECT].



- 2**
 - ① Press [▼] or [▲] to select the desired item.
 - ② Press [SELECT].

1 On-Screen Messages

To select whether "Play", "Still" and others are displayed or not.

2 Color and Position

To select the color and position of "Play", "Still" and other as well as GUI screens.

- 3**
 - ① Press [▼] or [▲] to select desired setting.
 - ② Press [SELECT].

• "1 On-Screen Messages"

- 1 On: "Play", "Still" and others will always appear on the TV. (Factory setting)
- 2 Off: "Play", "Still" and others will not appear on the TV.

• "2 Color and Position"

The colors and positions are set as follows:

- 1 Blue/Upper (Factory setting)
- 2 Violet/Upper
- 3 Green/Upper
- 4 Blue/Middle upper
- 5 Violet/Middle upper
- 6 Green/Middle upper

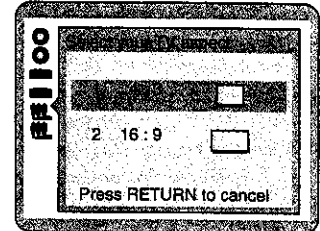
The screen illustrated in step 1 is displayed. Select "0 Exit" by using cursor buttons and press [SELECT] to return to the initial settings screen.

Selecting TV aspect F

Select the appropriate TV aspect according to your TV set; conventional size screen (4:3) or wide-screen (16:9).

by remote control only

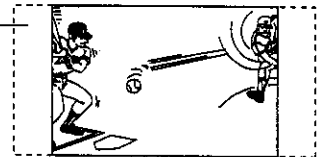
- 1** At the initial settings screen (→ page 55)
 - ① Press [▼] or [▲] to select "5 TV Aspect".
 - ② Press [SELECT].



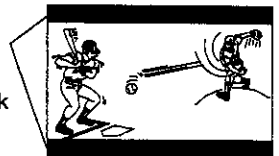
- 2**
 - ① Press [▼] or [▲] to select the desired type.
 - ② Press [SELECT].

- 4:3 ☐ A conventional TV (factory setting)

- ⑨ Video material formatted in the Pan & Scan style is played back in that style (the left and right edges are cut off).

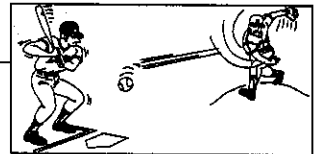


- ⑩ Video material not formatted in the Pan & Scan style is played back in the letterbox style (black bands appear at top and bottom of screen).



- 16:9 ☐ A wide-screen TV

- ① Played in "FULL" size. (Set the wide-screen TV to "FULL" mode)



*Each screen shows an example when the video material for a wide-screen is played. (This setting does not affect the video material for conventional size.)

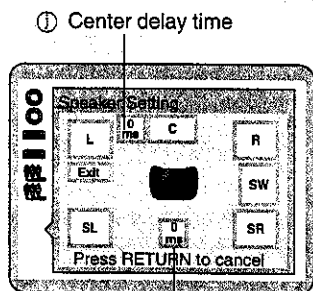
Setting is finished and the initial settings screen is displayed.

Speaker setting

G

by remote control only

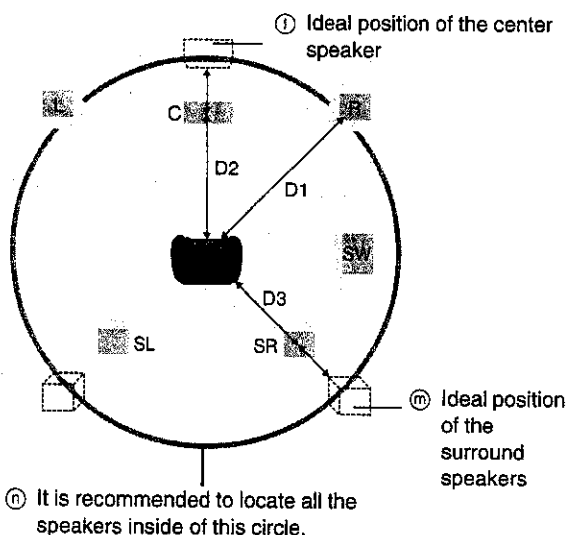
- 1 At the initial settings screen (→ page 55)
 - ① Press [▼] or [▲] to select "6 Speaker Setting".
 - ② Press [SELECT].



① Center delay time

② Surround delay time

- 2 ① Press [▼] or [▲] to select "Center Delay time" or "Surround Delay time".
 - ② Press [SELECT].
- 3 ① Press [▼] or [▲] to select the desired time.
 - ② Press [SELECT].



If the surround speakers or the center speaker can't be installed at an equal distance to the front speakers from the listening position, change the delay time to get better surround effect.

- When D2 or D3 is equal to or larger than D1, no setting is necessary. Otherwise, change the setting according to the table below.

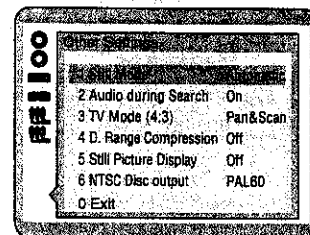
Speaker	Delay time	Difference between D1 and D2/D3
Center speaker (D2)	1.3 ms	approx. 50cm
	2.6 ms	approx. 100 cm
	3.9 ms	approx. 150 cm
	5.3 ms	approx. 200 cm
Surround speakers (D3)	5.3 ms	approx. 200 cm
	10.6 ms	approx. 400 cm
	15.9 ms	approx. 600 cm

Other settings

H

by remote control only

- 1 At the initial settings screen (→ page 55)
 - ① Press [▼] or [▲] to select "9 Other Settings".
 - ② Press [SELECT].



- 2 ① Press [▼] or [▲] to select the desired item.
 - ② Press [SELECT].

• "1 Still Mode"

Automatic: "Frame still" and "Field still" are automatically selected during the still mode. (Factory setting)

Field: When jittering occurs in the pictures.

Frame: When small text or fine patterns cannot be seen clearly.

• "2 Audio during Search"

On: You want sound during search. (Factory setting)

Off: You do not want sound during search. (Except for CD)

• "3 TV Mode (4:3)"

Pan & Scan: The video material for a wide-screen will be played back in the Pan & Scan style on a conventional size TV. (Factory setting)

- Video material not formatted in the Pan & Scan style will be played back in the letterbox style.

Letterbox: The video material for a wide-screen will be played back in the letterbox style on a conventional size TV.

• "4 D. (Dynamic) Range Compression"

Off: Normal audio range (Factory setting)

On: Dynamic sound even on a low volume. [This only works with Dolby Digital DVDs.]

• "5 Still Picture Display"

Off: The picture type (I/P/B) will not be displayed in the still picture mode. (Factory setting)

On: The picture type (I/P/B) will be displayed.

• "6 NTSC Disc output"

PAL60: Phase Alternating Line (Factory setting)

NTSC: National Television System Committee

- 3 ① Press [▼] or [▲] to select the desired setting at each screen.
 - ② Press [SELECT].

The screen in step 1 is displayed. Select "0 Exit" with the cursor buttons and press [SELECT] to return to the initial settings screen.

What is meant by "I/P/B (picture type)"?

• I-picture (Intra coded picture)

Standard picture type. Each picture is coded separately.

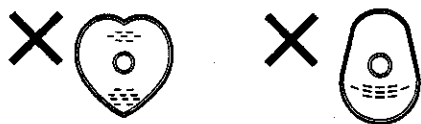
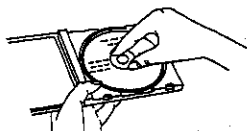
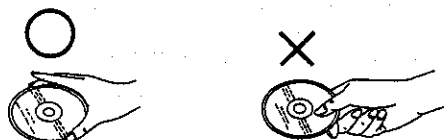
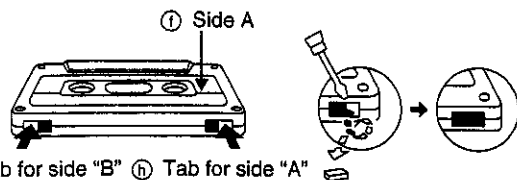
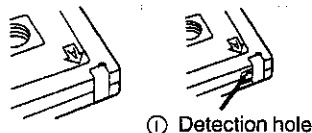
• P-picture (Predictive coded picture)

This is computed on the basis of a past I-picture or P-picture.

• B-picture (Bidirectionally-predictive coded picture)

This is computed by comparing the previous and subsequent I-picture or P-picture.

To return to the initial setting screen, press [◀] to select "Exit" and press [SELECT].

A**B****C****How to hold discs****Do not touch the recorded surface.****D****How to clean discs****Wipe from inside outward****E****How to take up tape slack****F****Tab for side "B" h Tab for side "A"****To re-record****Normal position tape k High-position tape****Detection hole**

Concerning discs

With this system, you can only play discs having these marks.



However, do not use irregular shaped discs. Discs of the sort can damage the unit. **A**

Handling precautions **B-D**

- If you are taking the disc from a cold to a warm environment, moisture may form on the disc. Wipe this off with a soft, dry, lint-free cloth before using the disc.
- Do not write on the label side with a ball-point pen or other writing instrument.
- Do not use record cleaning sprays, benzene, thinner, static electricity prevention liquids or any other solvent.
- Do not attach labels or stickers to discs. (Do not use discs with exposed adhesive from tape or left over peeled off stickers.)
- Do not use scratch-proof protectors or covers other than those specified for use with this system.

Storage precautions

Be sure to store discs in their cases to protect them from dust, scratches, and warping.

Do not place or store discs in the following places

- Locations exposed to direct sunlight
- Humid or dusty locations
- Locations directly exposed to a heat vent or heating appliance
- In the glove compartment or on the rear deck of an automobile

Concerning cassette tapes

Selection of cassette tapes

Tapes can get caught on the capstans. Use caution with the following types of tapes.

Cassette tapes exceeding 100 minutes

Tapes are made of a thin film material. Do not repeatedly advance and stop the tape, fast-forward it or rewind it.

Endless-tapes

For this unit, it is recommended to use tapes which are appropriate to the auto reverse mechanism.

Always read the instructions provided with your tapes.

Tape slack **E**

Tape slack may cause the tape to break.

Erasure prevention **E**

Use a screwdriver or similar object to break out the tab.

To re-record on a protected cassette

Cover the hole with adhesive tape.

Do not cover the detection hole on high-position tapes.

Storage precautions

Do not place or store tapes in the following places;

- In high temperature (35°C or higher) or high humidity (80% or higher) areas
- In a strong magnetic field (near a speaker, on top of a TV, etc.) This can erase a recording.
- Locations exposed to direct sunlight

Troubleshooting guide

Before requesting service for this unit, check the chart below for a possible cause of the problem you are experiencing. Some simple checks or a minor adjustment on your part may eliminate the problem and restore proper operation. If you are in doubt about some of the check points, or if the remedies indicated in the chart do not solve the problem, refer to the directory of Authorized Service Centers (enclosed with this unit) to locate a convenient service center, or consult your dealer for instructions.

When the picture of the DVD does not appear on the TV, confirm the region number on the DVD disc.
Confirm the region number at the back of your system, too. (→ page 9)



Problem	Probable cause(s)	Suggested remedy	Page(s)
Common problems			
ECO mode is on but the display panel still lights up.	DEMO mode is on.	Turn DEMO mode off.	12
Humming is heard while playing.	AC mains lead or fluorescent lamp is located in the vicinity of cables.	Keep electric appliances away from the system. Try plugging the AC mains lead in the other way.	
There is no sound when a source is being played.	The (+) and (−) wire of the speaker cords are shorted.	Switch the system to the standby mode, and reconnect the speaker cords so that they are not shorted. Then switch on the power.	
"DTS NO AUDIO" appears on the display.	The disc is encoded with DTS.	This system cannot play DTS discs. Replace the disc.	9
"U70" appears on the display.	Flat cables are not connected steadily.	Connect the flat cable steadily. When the "U70" display is not cleared after connecting the unit is damaged. Consult your dealer.	6, 7
"ERROR" appears on the display.	Wrong operation has been done.	Operate the unit correctly by following the operating instructions.	
"--:--" appears on the display.	You plugged the AC mains lead in for the first time.	Set the time.	
	There was a power failure recently.		
"DVD U11" appears on the display.	Disc is dirty.	Wipe the disc clean.	59
"DVD H ☐ ☐ " appears on the display.	Trouble is likely to have occurred. The number following "H" depends on the status of the DVD/Video CD/CD changer.	Turn the system off and then back to on. Alternatively, turn off the system, disconnect the AC mains lead, and then re-connect it. If the display isn't cleared, consult your dealer about getting the unit repaired. Tell the dealer the number that was on the display.	

While listening to FM broadcasts			
There is a "rushing noise" during a stereo broadcast which is not audible during a monaural broadcast.	The transmitting station is a long distance away.	If you are using an indoor antenna change to an outdoor antenna.	7
You hear excessive noise during a stereo broadcast, and occasionally the sound disappears.	The installation location and orientation of the antenna are unsuitable.		
The stereo indicator flickers and does not light completely.	The transmitting station is a long distance away.		
The sound during a stereo broadcast is highly distorted.	There is a building or mountain nearby.	Use a high-grade outdoor antenna, and install it in a good location, height, and orientation for reception.	7

Problem	Probable cause(s)	Suggested remedy	Page(s)
While listening to AM broadcasts			
You hear a low-frequency hum.	The antenna wire is too close to the flat cables/AC mains lead.	Move the antenna away from the flat cables/AC mains lead.	

While watching the TV			
The picture on the TV disappears or stripes appear on the screen.	Unsuitable position or orientation of antenna.	Change to an outdoor antenna. Place the system at a distance from the TV.	7
	TV's antenna cord is too close to the system.	Run the TV's antenna cord at a distance from the system.	

While listening to tapes			
Sound is low, intermittent, or poor quality, noisy, scratchy, or unsteady.	Heads are dirty.	Clean the heads.	Back cover
	Dolby noise reductions is set in the wrong position.	Set it to match the Dolby NR recording mode.	34

While enjoying discs			
Disc play starts automatically before you complete the process.	The Automatic Play function is activated.	To stop playing, press [■].	17
Disc play does not start from the first track.	The Resume function is activated.	Press [■] while the player is stopped to cancel the Resume function.	18
The picture of the DVD/video CD does not appear on the TV.	The video connection cable is not connected.	Connect the video connection cable.	6, 7
	The TV is not set to video input mode.	Set the TV to video input mode.	
The display will not show the correct indication. Disc play does not start when you press the play button.	The disc is not positioned correctly in the disc tray.	Load the disc on the tray correctly.	17
	The disc is scratched.	Replace the disc with a new one.	
	The disc is badly warped.		
	The disc is a nonstandard one.	Replace the disc with a different one.	
	There is condensation inside the unit.	Wait for 60 minutes before using the unit.	
"TAKE OUT/DISC" appears on the display.	There is a problem with the disc mechanism. (A power failure may have occurred.)	The tray will open automatically. Remove the disc from the tray, and after ensuring there is no disc in the tray close it. The unit will make the disc changing noises for a few moments and then it should operate normally.	
You have forgotten your age restriction password.	① Turn on your television and insert a CD or video CD into the changer. Disc information is displayed on this system's display. ② While stopped, press and hold [■] on the changer AND [≥10/—] on the remote control until the message "Initialized" appears on the television. ③ Press [⏻/I] to switch the system to standby and then switch it on again. All settings on the system have been returned to the original factory settings.		

During CD editing			
"DECK NO TAPE" appears on the display.	No tape is loaded into deck 2.	Load a tape.	
"ERROR" appears on the display.	The protector tab on the tape is broken.	Cover the tab's hole with adhesive tape or use another tape.	

The servicer will require all components to service your system. Therefore, should service ever be necessary, be sure to bring the entire system.

Language codes

Enter the appropriate code number for the initial settings "Audio", "Subtitle" and/or "Menus".

Abkhazian	6566	Fiji	7074	Lingala	7678	Singhalese	8373
Afar	6565	Finnish	7073	Lithuanian	7684	Slovak	8375
Afrikaans	6570	French	7082	Macedonian	7775	Slovenian	8376
Albanian	8381	Frisian	7089	Malagasy	7771	Somali	8379
Ameharic	6577	Galician	7176	Malay	7783	Spanish	6983
Arabic	6582	Georgian	7565	Malayalam	7776	Sundanese	8385
Armenian	7289	German	6869	Maltese	7784	Swahili	8387
Assamese	6583	Greek	6976	Maori	7773	Swedish	8386
Aymara	6588	Greenlandic	7576	Marathi	7782	Tagalog	8476
Azerbaijani	6590	Guarani	7178	Moldavian	7779	Tajik	8471
Bashkir	6665	Gujarati	7185	Mongolian	7778	Tamil	8465
Basque	6985	Hausa	7265	Nauru	7865	Tatar	8484
Bengali; Bangla	6678	Hebrew	7387	Nepali	7869	Telugu	8469
Bhutani	6890	Hindi	7273	Norwegian	7879	Thai	8472
Bihari	6672	Hungarian	7285	Oriya	7982	Tibetan	6679
Breton	6682	Icelandic	7383	Panjabi	8065	Tigrinya	8473
Bulgarian	6671	Indonesian	7378	Pashto, Pushto	8083	Tonga	8479
Burmese	7789	Interlingua	7365	Persian	7065	Turkish	8482
Byelorussian	6669	Irish	7165	Polish	8076	Turkmen	8475
Cambodian	7577	Italian	7384	Portuguese	8084	Twi	8487
Catalan	6765	Japanese	7465	Quechua	8185	Ukrainian	8575
Chinese	9072	Javanese	7487	Rhaeto-Romance	8277	Urdu	8582
Corsican	6779	Kannada	7578	Romanian	8279	Uzbek	8590
Croatian	7282	Kashmiri	7583	Russian	8285	Vietnamese	8673
Czech	6783	Kazakh	7575	Samoan	8377	Volapük	8679
Danish	3865	Kirghiz	7589	Sanskrit	8365	Welsh	6789
Dutch	7876	Korean	7579	Scots Gaelic	7168	Wolof	8779
English	6978	Kurdish	7585	Serbian	8382	Xhosa	8872
Esperanto	6979	Laothian	7679	Serbo-Croatian	8372	Yiddish	7473
Estonian	6984	Latin	7665	Shona	8378	Yoruba	8979
Faroese	7079	Latvian, Lettish	7686	Sindhi	8368	Zulu	9085

Technical specifications

Sound processor

■ EQ/SFP section

Manual GEQ

Center frequency	100 Hz, 315 Hz, 1 kHz, 3.15 kHz, 10 kHz ±3, 6, 9 dB
Level control	

EQ SPACE mode

3 modes	HEAVY, CLEAR, HALL
---------	--------------------

3D Acoustic Image EQ

3 modes	AI EQ, 3D AI 1, 3D AI 2
---------	-------------------------

■ Pre-amplifier section

Input sensitivity/impedance

VCR (EXT)	250 mV/15 kΩ
VDP (AUX)	250 mV/15 kΩ

Output level

VCR REC OUT	250 mV/1.5 kΩ
-------------	---------------

SUBWOOFER OUT

(Except for U.K. and Europa)	2.5 V/2.2 kΩ
------------------------------	--------------

Video output

MONITOR OUT	1 Vp-p/75Ω
VCR REC OUT	1 Vp-p/75Ω

■ Dolby Pro Logic section

Pro Logic mode

	SURROUND
--	----------

Center mode

	NORMAL
--	--------

Delay time

	20 ms (Fixed)
--	---------------

■ AV Surround section

AV Surround mode

	Super Surround (Music, Movie) Simulated Stereo
--	---

■ DSP Control section

DSP Control mode

	Center Focus Virtual Rear Surround Multi Rear Surround Seat Position
--	---

■ Spectrum analyzer section

Display mode NORMAL, PEAK HOLD, AURORA

■ General

Dimensions (W×H×D)	293×89×269 mm
--------------------	---------------

Weight

	1.5 kg
--	--------

Tuner amplifier

■ Amplifier section

Power output (at HIGH terminal)

DIN 1 kHz, THD 1 %, both channels driven	2×70 W (6Ω)
RMS 1 kHz, THD10 %, both channels driven	2×100 W (6Ω)

Pro Logic mode (at HIGH terminal)

DIN 1 kHz, THD 1 %	
--------------------	--

Main (both channels driven)	2×70 W (6Ω)
-----------------------------	-------------

Surround	2×25 W (8Ω)
----------	-------------

Center	45 W (8Ω)
--------	-----------

RMS 1 kHz, THD 10 %	
---------------------	--

Main (both channels driven)	2×100 W (6Ω)
-----------------------------	--------------

Surround	2×30 W (8Ω)
----------	-------------

Center	80 W (8Ω)
--------	-----------

PMPO 1 kHz	3,000 W
------------	---------

(Main 6Ω, Center 8Ω, Surround 8Ω)	
-----------------------------------	--

Total harmonic distortion

Rated power at 1 kHz	1 % (6Ω)
----------------------	----------

Half power at 1 kHz	0.1 % (6Ω)
---------------------	------------

Load impedance

Main (HIGH/LOW)	total impedance 6Ω
-----------------	--------------------

Surround	8Ω
----------	----

Center	8Ω
--------	----

S.WOOFER

Center frequency	70 Hz
------------------	-------

Level (Vol -20 dB)	MID +8 dB
--------------------	-----------

	MAX +12 dB
--	------------

■ FM tuner section

Frequency range

	87.50-108.00 MHz (0.05 MHz steps)
--	-----------------------------------

Sensitivity

	1.8 μV (IHF usable)
--	---------------------

S/N 26 dB

	1.5 μV
--	--------

S/N

	70 dB (75 dB, IHF)
--	--------------------

■ AM tuner section

Frequency range

	522-1629 kHz (9 kHz steps)
--	----------------------------

	520-1630 kHz (10 kHz steps)
--	-----------------------------

Sensitivity (S/N 20dB)

	500 μV/m
--	----------

■ Timer section

Clock

	Quartz-lock type
--	------------------

Function

	Play timer (1 time, daily), Rec timer (1 time, daily), Sleep (120 min, 30 min intervals)
--	--

Setting intervals (Play/Rec)

	1 minute-23 hours 59 minute (1 min interval)
--	--

■ General

Power supply

(For Europa)	AC 230 V, 50 Hz
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(For U.K., Australia and New Zealand)	AC 230-240 V, 50 Hz
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(For others)	AC 110/127/220/230-240 V, 50/60 Hz
--------------	------------------------------------

Power consumption

	230 W
--	-------

Normal mode

	11 W
--	------

Eco mode

(For U.K., Europa, Australia and New Zealand)	0.6 W
---	-------

(For others)	1.0 W
--------------	-------

Dimensions (W×H×D)

	293×118.5×342.5 mm
--	--------------------

Weight

	5.3 kg
--	--------

DVD/Video CD/CD changer

■ Discs played

DVD-Video disc

	8/12 cm single-sided, single-layer
--	------------------------------------

	8/12 cm single-sided, double-layer
--	------------------------------------

	8/12 cm double-sided, double-layer
--	------------------------------------

	(One layer per side)
--	----------------------

Compact disc (CD-DA, Video CD)

	8/12 cm disc
--	--------------

■ Video

Signal system

	PAL (PAL60/NTSC)
--	------------------

Output level

	Composite video
--	-----------------

	1 Vp-p (75Ω)
--	--------------

	S-video Y
--	-----------

	1 Vp-p (75Ω)
--	--------------

	S-video C
--	-----------

	0.300 Vp-p (75Ω) PAL
--	----------------------

	0.286 Vp-p (75Ω) NTSC
--	-----------------------

■ Pickup

Beam Source

	Semiconductor Laser
--	---------------------

Wave length

	668 nm
--	--------

■ General

Dimensions (W×H×D)

	293×89×290 mm
--	---------------

Weight

	2.6 kg
--	--------

Cassette deck

Deck system

	Stereo cassette deck
--	----------------------

Track system

	4 track, 2 channel
--	--------------------

Recording system

	AC bias
--	---------

Bias frequency

	100 kHz
--	---------

Erasing system

	AC erase
--	----------

Heads

Deck 1

(Playback head)	Permalloy head
-----------------	----------------

Deck 2

(Recording/playback head)	Permalloy head
---------------------------	----------------

(Erasing head)	Double gap ferrite head
----------------	-------------------------

Motors

Deck 1, 2

Capstan drive	DC servo motor
---------------	----------------

Tape speed

4.8 cm/s

Wow and flutter

0.16 % (WRMS)

Fast forward and rewind times

Approx. 110 seconds with C-60 cassette tape

Frequency response (Dolby NR off)

TYPE I (Normal)	20 Hz-16 kHz (DIN)
-----------------	--------------------

TYPE II (High)	20 Hz-16 kHz (DIN)
----------------	--------------------

TYPE IV (Metal)	20 Hz-16 kHz (DIN)
-----------------	--------------------

S/N (Signal level=max recording level, TYPE II tape)

NR off	56 dB (A weighted)
--------	--------------------

Dolby B NR on	66 dB (A weighted)
---------------	--------------------

Input sensitivity and impedance

REC (IN)	400 mV/23 kΩ
----------	--------------

Output voltage and impedance

PLAY (OUT)	280 mV/360Ω
------------	-------------

■ General

Dimensions (W×H×D)

294×118.5×281 mm

Weight

2.1 kg

Front speaker

(SB-EH750/SB-EH750A)

Type

3 way, 3 speakers

Speaker(s)

Superwoofer	17 cm cone type
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Woofer	12 cm cone type
--------	-----------------

Tweeter

(SB-EH750)	6 cm ring shaped dome type
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(SB-EH750A)	6 cm cone type
-------------	----------------

Impedance

Total 6Ω

Input power

Total 160 W (Music)

Output sound pressure level

84 dB/W (1.0 m)

Cross over frequency

200 Hz, 4kHz

Frequency range

(SB-EH750)	42 Hz-40 kHz (-16 dB)
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	46 Hz-36 kHz (-10 dB)
--	-----------------------

(SB-EH750A)	42 Hz-22 kHz (-16 dB)
-------------	-----------------------

	46 Hz-20 kHz (-10 dB)
--	-----------------------

■ General

Dimensions (W×H×D)

(SB-EH750)	254×412×246 mm
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(SB-EH750A)	254×416×246 mm
-------------	----------------

Weight

5.9 kg

Center speaker (SB-PC75)

Type

2 way, 2 speakers

Speakers

Woofer	10 cm cone type
--------	-----------------

Tweeter	6 cm cone type
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Impedance

8Ω

Input power

120 W (Music)

Output sound pressure level

85 dB/W (1.0 m)

Cross over frequency

4 kHz

Frequency range

75 Hz-22 kHz (-16 dB)

Dimensions (W×H×D)

250×121×147 mm

Weight

1.6 kg

Surround speaker (SB-PS75)

Type

1 way, 1 speaker

Speakers

Full range	8 cm cone type
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Impedance

8Ω

Input power

60 W (Music)

Output sound pressure level

84 dB/W (1.0 m)

Frequency range

120 Hz-20 kHz (-16 dB)

Dimensions (W×H×D)

Maintenance

If the surfaces are dirty

To clean this unit, wipe with a soft, dry cloth.

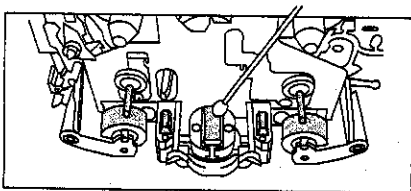
If the surfaces are extremely dirty, use a soft cloth dipped in a soap-and-water solution or a weak detergent solution.

- Never use alcohol, paint thinner or benzine to clean this unit.
- Before using chemically impregnated cloth, read the instructions that came with the cloth carefully.

For a cleaner crisper sound

We recommend that you periodically clean parts (the shaded portion in the figure below) the tape contacts like the heads.

Do not use any solution other than alcohol for head cleaning.



Suggestions for safety

Placement

Avoid placing the unit in areas of:

- direct sunlight
- high temperature
- high humidity
- excessive vibration
- uneven surfaces (Place the unit on a flat level surface.)

Such conditions might damage the cabinet and/or other component parts and thereby shorten the unit's service life.

To protect the unit against sound distortion and acoustical effects, please place the unit at least 15 cm away from wall surfaces etc.

Stacking

Never place heavy items on top of the unit or the AC mains lead.

Voltage

- It is very dangerous to use an AC power source of high voltage such as for an air conditioner.

A fire might be caused by such a connection.

- A DC power source cannot be used.

Be sure to check the power source carefully, especially if on a ship or other place where DC is used.

AC mains lead protection

- Avoid cuts, scratches or poor connection of the AC mains lead, as this may result in fire or electric shock.

Excessive bending, pulling or slicing of the AC mains lead should also be avoided.

- Do not pull on the AC mains lead when you are disconnecting the power, as this could cause an electric shock. Grasp the plug firmly when you disconnect the AC mains lead.

- Never touch the plug with wet hands or a serious electric shock could result.

Foreign materials

- Ensure that no foreign objects, such as needles, coins, screwdrivers etc., accidentally fall into the unit.

Otherwise, a serious electric shock or malfunction could occur.

- Be extremely careful about spilling water or liquid on/into the unit, as a fire or electric shock could occur.

(Disconnect the power plug and contact your dealer immediately if this occurs.)

- Avoid spraying insecticides onto the unit as they contain flammable gases which can be ignited.

- Insecticides, alcohol, paint thinner and similar chemicals should never be used to clean the unit as they can cause flaking or cloudiness to the cabinet finish.

Service

- Never attempt to repair, disassemble or re-construct the unit if there seems to be a problem.

A serious electric shock could result if you ignore this precautionary measure.

- If a problem occurs during operation (the sound is interrupted, indicators fail to light up, smoke is detected, etc.) contact your dealer or Authorized Service Center immediately.

- Disconnect the power supply if the unit will not be used for a long time. Otherwise the operation life could be shortened.